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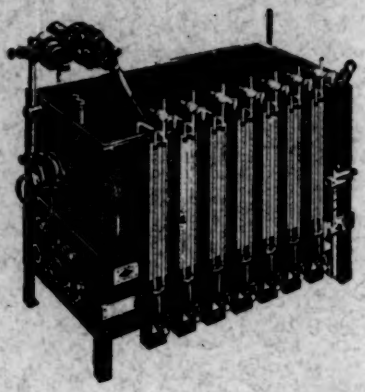

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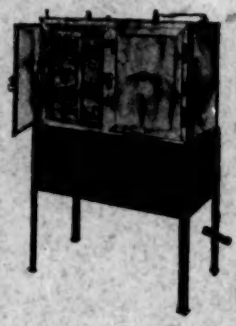

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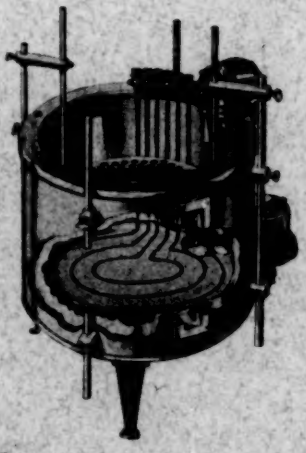

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— — Bacterial nutrition: further studies on the utilization of protein and non-protein nitrogen, 1918, **3**, 367
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— *See* Rettger, L. F., 1916, **1**, 15
— *See* Rettger, L. F., 1916, **1**, 121, ab.
Bernstein, A., and Morton, H. E. A new thermophilic actinomyces, 1934, **27**, 625
Bernstein, H. S., and Fish, E. S. Food poisoning by the *Bacillus paratyphosus B.*, 1916, **1**, 361, ab.
Berry, F. The bacterial content of market oysters, 1916, **1**, 107, ab.
— and Melick, C. O. The site and rate of destruction of pneumococci following intraperitoneal injection, 1916, **1**, 584, ab.
Berry, J. A. Destruction and survival of microörganisms in frozen pack foods, 1933, **26**, 459
— Lactobacilli in frozen pack peas, 1933, **25**, 75, ab.
— Detection of microbial lipase by copper soap formation, 1933, **25**, 433
— Destruction of microorganisms at various freezing temperatures, 1933, **25**, 74, ab.
Berry, J. L. Bubbling fountain tests, 1916, **1**, 706, ab.
— Cigar cutter tests, 1916, **1**, 706, ab.
— Studies on laboratory media, 1916, **1**, 693, ab.
Berry, R. N. Some new heat resistant, acid tolerant organismsca using spoilage in tomato juice, 1933, **25**, 72, ab.
Besemer, A. M. A study of five members (or so-called species) of the septicemia hemorrhagica (Pasteurella) group of organisms with special reference to their action on the various carbohydrates, 1917, **2**, 177
Bethune, N. *See* Smith, D. T., 1930, **20**, 361
Bibb, L. B. Differentiation of intestinal organisms by means of semifluid sugar media, 1927, **13**, 123

Bibb, L. B. Long tube method of cultivating microörganisms with observations on mobile colonies in liquid medium, 1925, **10**, 561
— Uniform growth and progression of mobile colonies of bacteria in liquid plates, 1932, **24**, 53
Bigger, J. W., and Griffiths, L. L. A weighted mean method of averaging bacterial counts of milk, 1933, **25**, 253
Biggs, H. M. Tuberculosis, 1916, **1**, 264, ab.
Billings, F. Pneumotyphoid, with report of a case, 1916, **1**, 464, ab.
Billings, W. A. *See* Fitch, C. P., 1920, **5**, 469
Bird, H. R. *See* Peterson, W. H., 1935, **29**, 84, ab.
Birge, E. A. *See* Trealease, W., 1926, **11**, 86, ab.
Birkhaug, K. E. Toxin production of the *Streptococcus erysipelatis*, 1926, **11**, 112, ab.
Bishop, L. M. *See* Fitch, C. P., 1935, **30**, 332, ab.
Black, N. *See* Sears, H. J., 1934, **27**, 453
Blackman, N. *See* Kopeloff, N., 1932, **23**, 109, ab.
Blair, A. W. *See* Lipman, J. G., 1916, **1**, 677, ab.
Blake, F. G. The etiology of rat-bite fever, 1916, **1**, 259, ab.
Blake, F. G., and Trask, J. D. Pneumococcus variants intermediate between the S and R forms, 1933, **25**, 289
Blanc, J. *See* Dernby, K. G., 1921, **6**, 419
Blanchard, K. C. Acid production and respiratory catalysts of *Escherichia acidilactici*, 1935, **30**, 442, ab.
— *See* Machlis, S., 1935, **30**, 442, ab.
Blank, I. H., and Arnold, W. The action of radiation in the extreme ultra-violet on *Bacillus subtilis* spores, 1935, **30**, 503
— and Arnold, W. The inhibition of growth of *Bacillus subtilis* by ultra-violet irradiated carbohydrates, 1935, **30**, 507
— and Kersten, H. The inhibition of growth of *Bacillus subtilis* on a modified extract agar by x-radiation of the medium, 1935, **30**, 21
Bliss, E. A. *See* Long, P. H., 1935, **29**, 39, ab.
— and Long, P. H. The cultural and serological characteristics of minute hemolytic streptococci, 1935, **29**, 38, ab.
— and Long, P. H. Studies on minute hemolytic streptococci. I. The cultural characteristics of minute hemolytic streptococci, 1934, **27**, 105, ab.
Bloomfield, A. L. *See* Austrian, C. R., 1916, **1**, 569, ab.
Boak, R. A., and Carpenter, C. M. The examination of samples of porcine blood for *Brucella abortus* agglutinins, 1930, **19**, 33, ab.
— — *Brucella melitensis* infection in cattle, 1934, **27**, 73, ab.
— — The effect of fever temperatures on *Treponema pallidum*, 1932, **23**, 106, ab.
— Carpenter, C. M., and Mucci, L. A. The effect of fever temperatures on N. gonorrheae, 1932, **23**, 106, ab.
— Carpenter, C. M., and Warren, S. L. The *in vivo* thermal death time of *Treponema pallidum*, 1933, **25**, 93, ab.
— — — Symptomatic herpetic manifestations following artificially induced fevers, 1934, **27**, 83, ab.
— *See* Carpenter, C. M., 1928, **15**, 41, ab.
— *See* Carpenter, C. M., 1929, **17**, 59, ab.
— *See* Carpenter, C. M., 1930, **19**, 24, ab.
— *See* Carpenter, C. M., 1931, **21**, 54, ab.
— *See* Carpenter, C. M., 1933, **25**, 88, ab.
Boëz, L. Anaerobiosis produced by means of a central catalyzing station, 1927, **13**, 227
Bogart, F. B. *See* Pettibone, D. F., 1916, **1**, 471
Bonazzi, A. Studies on *Azotobacter chroococcum* Beij, 1921, **6**, 331

Bonazzi, A. On nitrification. II. Intensive nitrate formation in solution, 1919, **4**, 43
— On nitrification. IV. The carbon and nitrogen relations of the nitrate ferment, 1921, **6**, 479
— On nitrification. V. The mechanism of ammonia oxidation, 1923, **8**, 343
Bond, G. C. *See* Downs, C. M., 1935, **30**, 485
Bond, H. E. The causation and treatment of pellagra, 1916, **1**, 582, ab.
Bonime, E. The immune response in pulmonary tuberculosis, 1916, **1**, 581, ab.
— Tuberculin in surgical tuberculosis, 1916, **1**, 581, ab.
— Vaccines in acute infection, 1916, **1**, 684, ab.
Borden, A. G. *See* Kulp, W. L., 1935, **30**, 212, ab.
Borman, E. K. Comparative studies on the natural and acquired resistance of certain strains of *Escherichia coli* to the bacteriostatic and germicidal effects of cations, 1932, **23**, 315
Bovie, W. T. The action of Schumann rays on living organisms, 1916, **1**, 132, ab.
Bowers, C. S., and Hucker, G. J. The composition of standard media for use in routine milk control work, 1934, **27**, 71, ab.
Boyd, M. F. Note on the preparation of hyphomycetes for microscopical examination, 1917, **2**, 365
Boyd, W. C. *See* Hooker, S. B., 1934, **27**, 91, ab.
— *See* Hooker, S. B., 1935, **29**, 57, ab.
Boyer, A. J. *See* Frazier, W. C., 1934, **27**, 31, ab.
— *See* Frazier, W. C., 1934, **27**, 539
Boyer, E. E. H. Studies on the bacterial flora of the mouth and nose of the normal horse, 1919, **4**, 61
Boysen, H. H. *See* Rahn, O., 1928, **15**, 30, ab.
Bradley, L. A., and Rettger, L. F. Studies on aerobic bacteria commonly concerned in the decomposition of cellulose, 1927, **13**, 321
Brainard, D. H. *See* Noble, W. C., Jr., 1927, **13**, 33, ab.
— *See* Noble, W. C., Jr., 1928, **15**, 19, ab.
— *See* Noble, W. C., Jr., 1935, **29**, 407
Branch, A. *See* Petroff, S. A., 1929, **17**, 58, ab.
Brandly, C. A. *See* Scott, J. P., 1933, **26**, 1
Branham, S. E. An improved technique for the comparison of antiseptics by the yeast fermentation method, 1929, **17**, 44, ab.
— Some problems due to diversity among meningococci, 1932, **23**, 93, ab.
— The effects of certain chemical compounds upon the course of gas production by baker's yeast, 1929, **18**, 247
— A study of some anaerobic microorganisms found in naso-pharyngeal washings, 1927, **13**, 3, ab.
— and Humphreys, E. M. Observations on the soluble antigens of *Bacterium enteritidis*, 1927, **13**, 46, ab.
— and Lillie, R. D. Experimental meningitis in guinea pigs, 1933, **25**, 90, ab.
— Robey, L., and Day, L. A. A gastrointestinal poison produced by *Bacterium enteritidis* and by *Bacterium paratyphosum B* (Aertrycke type), 1928, **15**, 36, ab.
Brannon, J. M. *See* Park, S. E., 1932, **24**, 461
— *See* Prucha, M. J., 1926, **11**, 27
Bredeck, J. F. The choroidal tubercle in tuberculous meningitis, 1916, **1**, 376, ab.
Breden, C. R., and Buswell, A. M. The use of shredded asbestos in methane fermentations, 1933, **26**, 379
— — The use of shredded asbestos in methane fermentations, 1933, **25**, 69, ab.

Breden, C. R., Fulmer, E. I., Werkman, C. H., and Hixon, R. M. The chemical action of Aerobacter faeni on xylose and on sucrose, 1930, **19**, 41

Breed, A. F. The micrococci present in the normal cow's udder, 1928, **15**, 29, ab.

Breed, M. E. *See* Breed, R. S., 1924, **9**, 545

— *See* Breed, R. S., 1926, **11**, 76, ab.

— The present status of systematic bacteriology, 1928, **15**, 143

Breed, R. S. Current problems and future developments in market milk control, 1935, **30**, 446, ab.

— Problems in nomenclature and classification now before the International Committee on Bacteriological Nomenclature, 1935, **30**, 329, ab.

— Sampling milk for bacterial analysis, 1916, **1**, 105, ab.

— Report: the work of the Nomenclature Committee of the International Society for Microbiology, 1932, **23**, 13

— and Breed, M. E. The type species of the genus *Serratia*, commonly known as *Bacillus prodigiosus*, 1924, **9**, 545

— — *Serratia indica* Bergey, the red chromogenic bacterium originally isolated by Koch in India, 1926, **11**, 76, ab.

— and Brew, J. D. Counting bacteria by means of the microscope, 1916, **1**, 375, ab.

— and Conn, H. J. The nomenclature of the actinomycetaceae, 1919, **4**, 585

— — The nomenclature of the actinomycetaceae (Addenda), 1920, **5**, 489

— Conn, H. J., and Baker, J. C. Comments on the evolution and classification of bacteria, 1918, **3**, 445

— and Dotterrer, W. D. The number of colonies allowable on satisfactory agar plates, 1916, **1**, 321

— — The pasteurization of dairy by-products, 1916, **1**, 106, ab.

— Prickett, P. S., and Yale, M. W. The significance of thermophilic spore-forming bacteria in pasteurized milk, 1929, **17**, 37, ab.

— *See* Buchanan, R. E., 1928, **16**, 387

— *See* Conn, H. J., 1919, **4**, 267

— *See* Pederson, C. S., 1927, **13**, 59, ab.

— *See* Pederson, C. S., 1928, **15**, 10, ab.

— *See* Pederson, C. S., 1928, **16**, 163

— *See* Prickett, P. S., 1928, **16**, 247

— *See* Yale, M. W., 1933, **25**, 66, ab.

Brenn, L. *See* Brown, J. H., 1931, **21**, 21, ab.

Brew, J. D. The use of 0.01 cubic centimeter pipettes in bacterial milk analysis, 1916, **1**, 89, ab.

— *See* Breed, R. S., 1916, **1**, 375, ab.

Brewer, C. M. The bacteriological content of market meats, 1925, **10**, 543

— and Reddish, G. F. A comparison of the hygienic laboratory test with the method used by the department of agriculture for testing disinfectants, 1929, **17**, 44, ab.

Brigham, G. D. *See* McAlpine, J. G., 1928, **16**, 251

— *See* Plastridge, W. N., 1934, **27**, 74, ab.

Brightman, C. L., Meachem, M. R., and Acree, S. F. A spectrophotometric study of the "salt effects" of phosphates upon the color of phenolsulfonphthalein salts and some biological applications, 1920, **5**, 169

Bristol, L. D. The requirements of the gonococcus for its natural and artificial growth, 1916, **1**, 694, ab.

— Toluol: its value in the sterilization of vaccines made from nonsporogenous gram negative bacteria, 1916, **1**, 689, ab.

Broadhurst, J. Observations on amorphous phases of bacteria, 1933, **25**, 545

— Liming, R., and Maclean, M. E. Differential staining of throat epithelial cells and invading organisms, 1935, **30**, 444

Broadhurst, J. Apparatus suggestions: (1) test tube plugs, (2) semiporous Petri dishes, (3) centimeter counters, 1927, **13,** 5, ab.
— Three contested types of bacterial growth in a single species, *Bacillus polygenesis*, 1933, **25,** 32, ab.
— Bacteriology as a cultural subject, 1927, **13,** 70, ab.
— Blue-printing directly from agar plates, 1918, **3,** 187
— Fungous phases in bacteria: Zygotes and sporangia, 1934, **27,** 48, ab.
— Hastening gas appearance in presumptive coli tests, 1929, **17,** 12, ab.
— Heating to facilitate measurement of precipitates, 1924, **9,** 511
— and Gilpin, L. Acidity in relation to bacterial changes induced by freezing, 1926, **11,** 95, ab.
— and Long, M. A. A differential stain for milk examination, 1932, **23,** 57, ab.
— and Lehr, B. E. A retention test for inhalants and similar preparations, 1930, **19,** 38, ab.
— Moriyama, Y., and Pease, D. Conjunction of disexual forms in Ascobacillus. A preliminary report, 1931, **21,** 305
— and Oram, J. Paramecia as a test of bacterial inhibition, 1932, **23,** 48, ab.
— and Pease, D. A preliminary report of a spinal pleomorphic organism, 1930, **19,** 24, ab.
— —. Dimorphic sexual reproduction in bacteria, 1931, **21,** 9, ab.
— and Dix, A. Should bacterial standards for swimming pools be revised?, 1928, **15,** 23, ab.
— *See* Güll, J., 1927, **13,** 4, ab.
— *See* Johanson, E., 1926, **11,** 87, ab.
— *See* Winslow, C.-E. A., 1917, **2,** 505
— *See* Winslow, C.-E. A., 1920, **5,** 191
Brodie, M. The antibody titer of so-called "normal" adult serum compared to that of convalescent poliomyelitic serum, 1932, **23,** 102, ab.
— Active immunization against poliomyelitis, 1933, **25,** 78, ab.
— Active immunization against poliomyelitis on monkeys, 1934, **27,** 84, ab.
— Active immunization of experimental animals and children against poliomyelitis with formalin inactivated virus suspension, 1935, **29,** 65, ab.
— and Park, W. H. An investigation into the mechanism of adult immunity against poliomyelitis, 1935, **29,** 64, ab.
Brody, L., and Arnold, L. Variation in the limiting hydrogen-ion concentrations of streptococci, 1923, **8,** 307
Broh-Kahn, R. *See* Edwards, P. R., 1934, **27,** 535
Bronfenbrenner, J. On the mechanism of anaphylaxis and antianaphylaxis, 1916, **1,** 127, ab.
— Studies on the nature of bacteriophage, 1930, **19,** 19, ab.
— Stimulation of bacterial metabolism by bacteriophage, 1933, **25,** 25, ab.
— Schlesinger, M. J., and Soletsky, D. On the methods of isolation and identification of the members of the colon-typhoid group of bacteria. Study of the bactericidal action of CR indicator, 1920, **5,** 79
Brooke, O. R. *See* Winslow, C.-E. A., 1927, **13,** 235
Broom, N. H. *See* Norton, J. F., 1930, **19,** 32, ab.
— *See* Norton, J. F., 1933, **25,** 98, ab.
Brown, C. W. Notes on brine pickle fermentation, 1916, **1,** 104, ab.
Brown, E. V. L. *See* Irons, E. E., 1916, **1,** 580, ab.
— *See* Irons, E. E., 1916, **1,** 699, ab.
Brown, H. J. *See* Conn, H. J., 1922, **7,** 519
Brown, J. H. A study of anaerobic bacteria, 1925, **10,** 513

Brown, J. H. The biological approach to bacteriology, 1932, **23,** 1
— Hydrogen ions, titration and the buffer index of bacteriological media, 1921, **6,** 555
— The preservation of bacteria in vacuo, II., 1932, **23,** 44, ab.
— Double-zone beta hemolytic streptococci, 1934, **27,** 104, ab.
— The formol titration of bacteriological media, 1923, **8,** 245
— and Brenn, L. A method for the differential staining of gram-positive and gram-negative bacteria in tissue sections, 1931, **21,** 21, ab.
— Frost, W. D., and Shaw, M. Hemolytic streptococci of the beta type in certified milk, 1926, **11,** 110, ab.
— and Howe, P. E. Transparent milk as a bacteriological medium, 1922, **7,** 511
— *See* Conn, H. J., 1925, **10,** 315
— *See* Frobisher, M., Jr., 1927, **13,** 44, ab.
— *See* Paulson, M., 1932, **23,** 38, ab.
Brown, J. W., and Skinner, C. E. Is the Eijkman test an aid in the detection of fecal pollution of water?, 1930, **20,** 139
Brown, J. W. *See* Skinner, C. E., 1934, **27,** 191
Brown, L. W., and Baldwin, I. L. The oxidation-reduction character of agar media and the growth of aerobic bacteria, 1933, **25,** 29, ab.
— — The influence of the oxidation-reduction character of the medium on the aerobic growth of certain bacteria, 1932, **23,** 56, ab.
Brown, P. E., and Allison, F. E. The influence of some common humus-forming materials of narrow and of wide nitrogen-carbon ratio on bacterial activities, 1916, **1,** 559, ab.
— and Corson, G. E. Ferrification in soils, 1916, **1,** 95, ab.
— and Johnson, H. W. Studies in sulfofication, 1916, **1,** 553, ab.
— and Minges, G. H. The effect of some manganese salts on ammonification and nitrification, 1916, **1,** 677, ab.
— and Smith, F. B. Phosphate assimilation by certain soil molds, 1930, **19,** 43, ab.
— *See* Smith, F. B., 1930, **19,** 43, ab.
— *See* Walker, R. H., 1930, **19,** 41, ab.
— *See* Walker, R. H., 1932, **23,** 67, ab.
— *See* Walker, R. H., 1935, **29,** 77, ab.
Brown, P. K., and Cummins, W. T. A study of the etiology of chronic nephritis, 1916, **1,** 258, ab.
Brown, R. W. *See* Werkman, C. H., 1933, **26,** 393
Browne, P. E. Relation between certain bacterial activities in soils and their crop-producing power, 1916, **1,** 124, ab.
Browne, W. W. A comparison of the acid production of the *B. coli* group isolated from various sources, 1916, **1,** 124, ab.
— and Ackman, B. The fallacy of refined readings of gas percentages in the fermentation of lactose peptone bile and lactose broth, 1917, **2,** 249
— The presence of the *B. coli* and *B. welchii* groups in the intestinal tract of fish (Stenomus chrysops), 1917, **2,** 417
Brueckner, A. L. *See* Graham, R., 1919, **4,** 1
Bruner, D. W. Differentiation between Gram-positive and Gram-negative microörganisms by the use of enzymes, 1933, **26,** 361
Brunstetter, B. C., and Magoon, C. A. The rate at which spores of *B. mycoides* Flügge, suspended in peptone solution, become stainable, 1934, **27,** 27, ab.
— — Studies upon bacterial spores. III. A contribution to the physiology of spore production in *B. mycoides*, 1931, **21,** 33, ab.
— — Studies on bacterial spores. III. A contribution to the physiology of spore production in *Bacillus mycoides*, 1932, **24,** 85

Brunstetter, B. C. *See* Magoon, C. A., 1930, **19**, 5, ab.
— *See* Magoon, C. A., 1930, **19**, 415
Brush, A. C. A blood-red yeast from milk, 1927, **13**, 58, ab.
Bryan, C. S. *See* Fabian, F. W., 1933, **25**, 33, ab.
— *See* Fabian, F. W., 1933, **26**, 543
Bryant, C. K. A new- or delta-type streptococcus, 1925, **10**, 53
Buchanan, J. H. *See* Levine, M., 1928, **15**, 15, ab.
Buchanan, R. E. Agglutination, 1919, **4**, 73
— The present status of bacterial nomenclature, 1933, **25**, 41, ab.
— Studies in the nomenclature and classification of the bacteria. II. The primary subdivisions of the Schizomycetes, 1917, **2**, 155
— Studies on the nomenclature and classification of the bacteria. III. The families of the Eubacteriales, 1917, **2**, 347
— Studies on the nomenclature and classification of the bacteria. IV. Subgroups and genera of the coccaceae, 1917, **2**, 603
— Studies in the nomenclature and classification of the bacteria. V. Subgroups and genera of the Bacteriaceae, 1918, **3**, 27
— Studies in the nomenclature and classification of the bacteria. VI. Subdivisions and genera of the spirillaceae, and nitrobacteriacaea, 1918, **3**, 175
— Studies in the classification and nomenclature of the bacteria. VII. The subgroups and genera of the chlamydobacteriales, 1918, **3**, 301
— Studies in the classification and nomenclature of the bacteria. VIII. The subgroups and genera of the actinomycetales, 1918, **3**, 403
— Studies in the classification and nomenclature of the bacteria. IX. The subgroups and genera of the thiobacteriales, 1918, **3**, 461
— Studies in the classification and nomenclature of the bacteria. X. Subgroups and genera of the myxobacteriales and spirochaetales, 1918, **3**, 541
— The taxonomy of the legume bacteria, 1927, **13**, 50 ab., (no abstract)
— Some problems in bacterial nomenclature, 1916, **1**, 82, ab.
— Studies in the nomenclature and classification of bacteria. The problem of bacterial nomenclature, 1916, **1**, 591
— Physiology as a basis for the differentiation of bacterial genera, 1928, **15**, 7, ab.
— Breed, R. S. and Rettger, L. F. A diagrammatic summary of various bacterial classifications. A report of the committee on taxonomy, 1928, **16**, 387
— *See* Winslow, C-E. A., 1917, **2**, 505
— *See* Winslow, C.-E. A., 1920, **5**, 191
Buchbinder, L. *See* Deskowitz, M. W., 1935, **29**, 293
— *See* Rosebury, T., 1929, **18**, 395
Buchholz, J. T., and Lewis, I. M. A method for preparing photographs of petri dish cultures by direct contact printing on photographic paper, 1930, **19**, 105
Buckley, A. C. *See* Rivas, D., 1916, **1**, 683, ab.
Buddingh, G. J. *See* Goodpasture, E. W., 1934, **27**, 76, ab.
Buggs, C. W., and Green, R. G. Electrophoretic phenomena of bacteria. II. Electrophoretic velocities of virulent and non-virulent *C. diphtheriae*, 1935, **30**, 447
— — Electrophoretic phenomena of bacteria. III. The electrophoretic velocity of bacteria in relation to growth, senescence, and death, 1935, **30**, 453
Bull, C. G. Agglutination of bacteria in vivo; its relation to the destruction of bacteria within the infected host and to septicaemia, 1916, **1**, 127, ab.

Bull, C. G. Further observations on the agglutination of bacteria in vivo, 1916, **1**, 572, ab.
— Immunity factors in pneumococcus infection in the dog, 1916, **1**, 575, ab.
— The influence of typhoid bacilli on the antibodies of normal and immune rabbits, 1916, **1**, 365, ab.
— and Pritchett, I. W. The agglutinability of blood and agar strains of typhoid bacilli, 1916, **1**, 568, ab.
— *See* Jacobs, W. A., 1916, **1**, 460, ab.
Bunker, G. C., Tucker, E. J., and Green, H. W. A modification of the technique of the Voges and Proskauer reaction, 1918, **3**, 493
Bunker, J. W. M. Studies of the diphtheria bacillus in culture, 1919, **4**, 379
— The value of lactose bile for the *B. coli* presumptive test, 1916, **1**, 85, ab.
Bunker, J. W. M. *See* Harris, R. S., 1932, **23**, 429
— *See* Jennison, M. W., 1932, **23**, 52, ab.
— *See* Jennison, M. W., 1935, **29**, 19, ab.
Bunney, W. E. The stability of the toxic principle in diphtheria toxin, 1932, **23**, 104, ab.
Bunyea, H. *See* Gochenour, W. S., 1920, **5**, 363
Burdick, W. *See* Williams, W. W., 1916, **1**, 411
— *See* Williams, W. W., 1916, **1**, 583, ab.
— *See* Williams, W. W., 1916, **1**, 690, ab.
Burgess, P. S. Azotobacter in Hawaiian soils, 1916, **1**, 676, ab.
Burget, G. E. Note on the flora of the stomach, 1920, **5**, 299
Burk, D., and Lineweaver, H. The influence of fixed nitrogen on azotobacter, 1930, **19**, 389
— Lineweaver, H., and Horner, C. K. The specific influence of acidity on the mechanism of nitrogen fixation by azotobacter, 1934, **27**, 325
Burke, G. S. The occurrence of *Bacillus botulinus* in nature, 1919, **4**, 541
— Notes on *Bacillus botulinus*, 1919, **4**, 555
Burke, G. W. *See* Levine, M., 1926, **11**, 94, ab.
— *See* Levine, M., 1926, **11**, 94, ab.
Burke, V. Notes on the Gram stain with description of a new method, 1922, **7**, 159
— Interchange of bacteria between the fresh water and the sea, 1934, **27**, 201
— and Baird, L. A. Fate of fresh water bacteria in the sea, 1931, **21**, 287
— and Barnes, M. W. The cell wall a factor in the Gram reaction, 1928, **15**, 12, ab.
— — The cell wall and the Gram reaction, 1929, **18**, 69
— and Ulrich, C. Rate of bacterial adaptation, 1928, **15**, 40, ab.
— *See* Conn, H. J., 1928, **16**, 145
— *See* Conn, H. J., 1930, **19**, 2, ab.
— *See* Conn, H. J., 1931, **21**, 1, ab.
— *See* Conn, H. J., 1932, **23**, 12, ab.
— *See* Conn, H. J., 1933, **25**, 20, ab.
— *See* Conn, H. J., 1934, **27**, 22, ab.
— *See* Conn, H. J., 1935, **29**, 2, ab.
— and Gibson, F. O. The Gram reaction and the electric charge of bacteria, 1933, **26**, 211
Burkey, L. A. Pectin fermenting bacteria, 1928, **15**, 33, ab.
— Methods for determining the persistence of certain important bacteria in Swiss cheese, 1931, **21**, 40, ab.
— An improvement in the methylene blue reduction test, 1934, **27**, 67, ab.
— and Frazier, W. C. The influence of certain milk bacteria on Swiss cheese, 1930, **19**, 49, ab.
— and Sanders, G. P. The influence of bacterial growth and acid production on the draining of Swiss cheese in the press, 1932, **23**, 61, ab.
— *See* Frazier, W. C., 1930, **19**, 50, ab.
Burky, E. L., and Freese, H. L. Filter-passing anaerobic bacteria of the

upper respiratory tract in health and during acute respiratory disease, 1931, **22,** 309

Burn, C. G. Characteristics of a new species of the genus *Listerella* obtained from human sources, 1935, **30,** 573

Burrage, S. Bacteria in supposedly sterile meconium, 1927, **13,** 47, ab.

Burrows, W. *See* Tanner, F. W., 1931, **21,** 32, ab.

Bushnell, L. D. A method for the cultivation of anaerobes, 1922, **7,** 277

— Quantitative determinations of some of the biochemical changes produced by a saprophytic anaerobe, 1922, **7,** 373

— Action of ultra violet light upon the antigenic property of *P. avicida*, 1926, **11,** 107

— Influence of vacuum upon growth of some aerobic spore-bearing bacteria, 1922, **7,** 283

— *See* Hunter, O. W., 1916, **1,** 372, ab.

Buswell, A. M. Study of the chemical mechanism of anaerobic methane production, 1935, **29,** 81, ab.

— *See* Breden, C. R., 1933, **25,** 69, ab.

— *See* Breden, C. R., 1933, **26,** 379

— *See* Neave, S. L., 1926, **12,** 133

Butterfield, C. T. Experimental studies of bacterial death rates in polluted waters, 1928, **16,** 257

— The selection of a dilution water for bacteriological examinations, 1932, **23,** 355

C

Caldwell, B. W The epidemic of typhus exanthematicus in the Balkans and in the camps of Europe, 1916, **1,** 265, ab.

Caldwell, D. W., Parker, N. J., and Medlar, E. M. Studies on a herd infected with *Brucella abortus*, II. Incidence of milk infection in a vaccinated herd, 1934, **27,** 72, ab.

— *See* Hadley, P., 1919, **4,** 65

— *See* Mellon, R. R., 1926, **12,** 409

Caldwell, F. C. *See* Tonney, F. O., 1916, **1,** 699, ab.

Caldwell, M. E. Studies on dissociation of certain paratyphoid bacilli. The rôle of variants in the precipitation of calcium sulphite, 1934, **27,** 121

— *See* Jordan, E. O., 1934, **27,** 165

Cameron, E. J. "Black beets"—a problem involving stimulation of bacterial growth by iron, 1934, **27,** 60, ab.

— The scope and findings of field work during the canning season of 1928, 1929, **17,** 31, ab.

— The bacteriostatic effect of gentian violet on thermophilic spore-forming bacteria, 1930, **19,** 52, ab.

— The "natural" or "normal" resistance of spores of thermophilic bacteria, 1931, **21,** 31, ab.

— and Williams, C. C. The thermophilic flora of sugar and its relation to canning, 1928, **15,** 31, ab.

— Williams, C. C., and Thompson, R. J. Sources of thermophilic contamination in the canning of peas and corn, 1927, **13,** 64, ab.

Cameron, G. M., and Sherman, J. M. The rate of growth of *Rhizobia*, 1935, **30,** 647

— *See* Allen, P. W., 1927, **13,** 68, ab.

— *See* Allen, P. W., 1927, **13,** 68, ab.

— *See* Cole, W. E., 1927, **13,** 63, ab.

— *See* Sherman, J. M., 1934, **27,** 23, ab.

— *See* Sherman, J. M., 1934, **27,** 341

Cameron, R., and Rettger, L. F. Attempts to demonstrate a specific toxin in *Salmonella aertrycke* (Var. meleagridis), 1934, **27,** 86, ab.

Cannon, P. R. A rapid and simple indol test, 1916, **1,** 535

Capps, J. A. *See* Moody, A. M., 1916, **1,** 582, ab.

Carapetian, H. *See* Hadley, P., 1933, **25,** 94, ab.

Card, L. E. *See* Roberts, E., 1927, **13,** 31, ab.

Carey, C. *See* Waksman, S. A., 1926, **12,** 87
— *See* Waksman, S. A., 1934, **28,** 213
— *See* Waksman, S. A., 1935, **29,** 545
— *See* Waksman, S. A., 1935, **29,** 531
Carpenter, C. M. *See* Leahy, A. D., 1935, **29,** 36, ab.
— The effect of heat produced by an alternating electric current on tubercle bacilli in milk, 1929, **17,** 38, ab.
— Notes on the bacteriology of two cases of undulant fever in man, 1926, **11,** 108, ab.
— and Boak, R. Thermal death point studies of *Brucella abortus*, 1928, **15,** 41, ab.
— and Boak, R. A. The effect of heat produced by an ultra-high frequency oscillator on experimental syphilis in rabbits, 1930, **19,** 24, ab.
— — Lethal temperatures for *Br. abortus* with special reference to pasteurization, 1931, **21,** 54, ab.
— and Boak, R. A. The effect of various therapeutic agents on *Brucella abortus* infection in guinea pigs, 1933, **25,** 88, ab.
— Boak, R., and Chapman, O. D. The significance of *Brucella abortus* agglutinins in human sera, 1929, **17,** 59, ab.
— *See* Boak, R. A., 1930, **19,** 33, ab.
— *See* Boak, R. A., 1932, **23,** 106, ab.
— *See* Boak, R. A., 1932, **23,** 106, ab.
— *See* Boak, R. A., 1933, **25,** 93, ab.
— *See* Boak, R. A., 1934, **27,** 73, ab.
— *See* Boak, R. A., 1934, **27,** 83, ab.
Carpenter, D. C. *See* Levine, M., 1923, **8,** 297
Carpenter, H. M., and Long, P. H. Experiments with Kendall's medium, 1933, **25,** 241
Carpenter, P. L., Fulton, M., and Stuart, C. A. Stimulation of bacterial growth rate by methyl germanic oxide, 1935, **30,** 137
— — — Stimulation of bacterial growth rate by methyl germanic oxide, 1935, **29,** 18, ab.
Carr, C. J. *See* Dozois, K. P., 1935, **30,** 189
Carroll, W. R. The use of asparagus extract in media for the cultivation of legume nodule bacteria, 1929, **17,** 21, ab.
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Cary, W. E. The bacterial examination of sausages and its sanitary significance, 1916, **1,** 123, ab.
Case, L. L. *See* Sears, H. J., 1918, **3,** 531
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— — Some factors limiting bacterial growth at higher temperatures, 1931, **21,** 27, ab.
— *See* Valley, G., 1930, **19,** 36, ab.
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— *See* Zinsser, H., 1932, **23,** 102, ab.
— *See* Zinsser, H., 1931, **21,** 43, ab.
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— *See* Williams, A. W., 1932, **23,** 241
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— *See* Miller, C. P., Jr., 1932, **24,** 439
Celler, H. L., and Thalhimer, W. Bacteriological and experimental studies on gastric ulcer, 1916, **1,** 589, ab.
Chalmers, C. H. A modification of the alcohol test as an index of the bacterial count and keeping quality of milk, 1928, **15,** 93
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Chambers, R. A micromanipulator for the isolation of bacteria and the dissection of cells, 1923, **8,** 1
Chambers, W. H. Bacterial inhibition. I. Germicidal action in milk, 1920, **5,** 527
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Chapman, G. H. Electrophoretic potential as an aid in identifying strains of the *B. coli* group, 1929, **18,** 339
— The isolation and estimation of *Clostridium welchii*, 1928, **16,** 49
— Berens, C., Peters, A., Curcio, L. Coagulase and hemolysin tests as measures of the pathogenicity of Staphylococci, 1934, **28,** 343
— and Berens, C. Crystal violet agar as a differential medium for Staphylococci, 1935, **29,** 437
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Charlton, D. B., and Levine, M. The survivor curves exhibited by bacterial spores in chlorine disinfection, 1934, **27,** 37, ab.
— and Levine, M. Some observations on the germicidal efficiency of chloramine-t and calcium hypochlorite, 1935, **30,** 163
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— *See* Ruchhoft, C. C., 1931, **22,** 125
Churchman, J. W. Gram structure of cocci, 1929, **18,** 413
Churchman, J. W. Modification of Koile flask, 1931, **22,** 29
— The diagnosis of genitourinary tuberculosis, 1916, **1,** 380, ab.
Clague, J. A., and Fellers, C. R. Time-temperature-humidity relations in dried fruit pasteurization, 1931, **21,** 30, ab.
— *See* Fellers, C. R., 1932, **23,** 63, ab.
Clark, A. S. *See* Clark, P. F., 1926, **11,** 89, ab.
Clark, A. R. *See* Gay, F. P., 1934, **27,** 175
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Clark, G. W. A modified procedure for the preparation of testicular infusion agar, 1920, **5,** 99
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Clark, L. T., Ferry, N. S., and Steele, A. H. Studies of the properties of a bouillon filtrate of the gonococcus, 1931, **21,** 58, ab.
Clark, P. F. *See* Lynch, L. C., 1935, **29,** 36, ab.
— and Clark, A. S. A "bacteriophage" active against a hemolytic streptococcus, 1926, **11,** 89, ab.
— Middleton, W. S., and Wilson, O. M. Permeability of the respiratory tract to old tuberculin, 1929, **17,** 57, ab.
— and Ruehl, W. H. Morphological changes during the growth of bacteria, 1919, **4,** 615.
— and Schindler, J. A. The concentration of the virus of epidemic poliomyelitis, 1930, **19,** 20, ab.
— — and Roberts, D. J. Some properties of poliomyelitis virus, 1930, **20,** 213
— *See* Pettibone, D. F., 1916, **1,** 471
Clark, W. M. An outline of the history of studies on anaerobiosis, 1928, **15,** 16, ab.
— Evolution toward a mature scientific literature, 1934, **27,** 1
— Cohen, B., and Gibbs, H. D. The significance of recent studies on meriquinones, 1926, **11,** 81, ab.
— and Lubs, H. A. The colorimetric determination of hydrogen ion concentration and its applications in bacteriology. Part I., 1917, **2,** 1
— — The colorimetric determination of hydrogen ion concentration and its applications in bacteriology. Part II., 1917, **2,** 109

Clark, W. M., and Lubs, H. A. The colorimetric determination of hydrogen ion concentration and its applications in bacteriology. Part III., 1917, **2**, 191
— *See* Cohen, B., 1919, **4**, 409
— *See* Merrill, A. T., 1928, **15**, 267
— *See* Rogers, L. A., 1916, **1**, 82, ab.
— *See* Rogers, L. A., 1916, **1**, 567, ab.
— *See* Rogers, L. A., 1918, **3**, 231
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Clarke, C. M. *See* Barnes, L. A., 1934, **27**, 107, ab.
Clawson, B. J. The relation of antibody content to allergy and resistance in animals vaccinated with B. C. G., 1935, **29**, 32, ab.
Cleary, J. P., Beard, P. J., and Clifton, C. E. Studies of certain factors influencing the size of bacterial populations, 1935, **29**, 205
— *See* Clifton, C. E., 1934, **28**, 541
— *See* Clifton, C. E., 1934, **28**, 561
Clemenger, F. J., and Martley, F. C. Animal experiments upon the acquirement of active immunity by treatment with Von Ruck's vaccine against tuberculosis, 1916, **1**, 692, ab.
Clifton, C. E. Oxidation-reduction potentials in cultures of *Staphylococcus aureus*, 1933, **25**, 495
— The problem of ultrafiltration, 1931, **21**, 7, ab.
— and Cleary, J. P. Oxidation-reduction potentials and ferricyanide reducing activities in glucose-peptone cultures and suspensions of *Escherichia coli*, 1934, **28**, 561
— Cleary, J. P., and Beard, P. J. Oxidation-reduction potentials and ferricyanide reducing activities in peptone cultures and suspensions of *Escherichia coli*, 1934, **28**, 541
— *See* Cleary, J. P., 1935, **29**, 205
— and Madison, R. R. Studies on the electrical charge of bacteriophage, 1931, **22**, 255
— Schultz, E. W., and Gebhardt, L. P. Ultrafiltration studies on the virus of poliomyelitis, 1931, **22**, 7
Clock, R. O. Bacterial testing of catgut sutures, 1932, **23**, 108, ab.
Clough, R. W. *See* Fellers, C. R., 1925, **10**, 105
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Coburn, A. F. Observations on an epidemic infection with hemolytic streptococcus in an isolated group of rheumatic subjects, 1935, **29**, 39, ab.
Coe, H. C. *See* Manwaring, W. H., 1916, **1**, 686, ab.
— *See* Manwaring, W. H., 1916, **1**, 687, ab.
Coffey, J. M. A comparative study of freshly isolated and stock strains of *B. pertussis* in relation to their antigenic properties, 1934, **27**, 96, ab.
Cohen, B., and Shwachman, H. Some oxidation and reduction reactions of pneumococcal hemolysin, 1935, **29**, 54, ab.
— The bacterial culture as an electrical half-cell, 1931, **21**, 18, ab.
— Disinfection studies. The effects of temperature and hydrogen ion concentration upon the viability of *Bact. coli* and *Bact. typhosum* in water, 1922, **7**, 183
— Reduction potentials in bacterial cultures and their relation to anaerobiosis, 1928, **15**, 16, ab.
— and Clark, W. M. The growth of certain bacteria in media of different hydrogen ion concentrations, 1919, **4**, 409
— *See* Clark, W. M., 1926, **11**, 81, ab.
— *See* Conn, H. J., 1925, **10**, 315
— *See* Conn, H. J., 1928, **16**, 145
— *See* Conn, H. J., 1930, **19**, 2, ab.
— *See* Conn, H. J., 1935, **29**, 2, ab.
— *See* Conn, H. J., 1931, **21**, 1, ab.
— *See* Conn, H. J., 1932, **23**, 12, ab.
— *See* Conn, H. J., 1933, **25**, 20, ab.

Cohen, B. *See* Conn, H. J., 1934, **27**, 22, ab.
Cohen, F. Recurrent generalized herpes of infectious origin, 1916, **1**, 580, ab.
Cohen, M. B. The Bulgarian bacillus in the treatment of vulvovaginitis, 1916, **1**, 695, ab.
Cohen, P. *See* Kopeloff, N., 1928, **15**, 12, ab.
Cohen, S. M. Precipitation reactions of meningococcus strains with immune serum in agar plates in relation to antigenic activity, 1934, **27**, 85, ab.
Cohn, M. L. The antiseptic effect upon tubercle bacilli of certain recently-advocated compounds, 1934, **27**, 517
Cole, B. C. S. A case of infection of lymph glands with *Bacillus paratyphosus B.*, 1916, **1**, 581, ab.
Cole, W. E., Allen, P. W., and Cameron, G. M. The fixation of the bacteria in market milk samples, 1927, **13**, 63, ab.
— *See* Allen, P. W., 1927, **13**, 68, ab.
— *See* Allen, P. W., 1927, **13**, 68, ab.
Coleman, D. A. Environmental factors influencing the activity of soil fungi, 1916, **1**, 677, ab.
— *See* Lint, H. C., 1916, **1**, 675, ab.
— Lint, H. C., and Kopeloff, N. Can soil be sterilized without radical alteration?, 1916, **1**, 560, ab.
— *See* Kopeloff, N., 1916, **1**, 373, ab.
Coleman, M. B., Owen, H. H., and Dacey, H. G. Fermentation of monosaccharids by organisms of the abortus-melitensis group, 1930, **19**, 34
— *See* Gilbert R., 1928, **15**, 40, ab.
— *See* Gilbert, R., 1932, **23**, 110, ab.
— *See* Gilbert, R., 1933, **25**, 87, ab.
— *See* Gilbert, R., 1935, **29**, 46, ab.
Colien, F. E. A study of microbic variation in a yellow pigment-producing coccus, 1935, **30**, 301
Colingsworth, D. R., and Reid, J. J. Oxidation-reduction characteristics and yeast growth initiation in a medium containing small amounts of wort, 1935, **30**, 653, ab.
Colley, M. W. Measuring the growth of bacteria with the nephelometer, 1926, **11**, 91, ab.
Collins, K. R. A case of sensitization to Witte's peptone, 1916, **1**, 685, ab.
Collins, M. A., and Hammer, B. W. Types of lipolysis brought about by bacteria, as shown by Nile-blue sulphate, 1934, **27**, 487
— — The action of certain bacteria on some simple triglycerides and natural fats, as shown by Nile-blue sulphate, 1934, **27**, 473
Colosi, N. Bile as an antigen in serum diagnosis of syphilis, 1931, **21**, 48, ab.
Colvin, M. G. A critical consideration of bacteriophage therapy in staphylococcus infections, 1935, **30**, 446, ab.
Conklin, M. E. Mercurochrome as a bacteriological stain, 1934, **27**, 30, ab.
Conn, H. J. Use of the microscope in studying the activities of bacteria in soil, 1929, **17**, 23, ab.
— Nitrogen metabolism of bacteria as affected by colloids and replaceable bases in soil, 1932, **23**, 77, ab.
— A method of detecting Rennet production by bacteria, 1922, **7**, 447
— A possible function of actinomycetes in soil, 1916, **1**, 93, ab.; 197
— Rose bengal as a general bacterial stain, 1921, **6**, 253
— The effect of certain simple non-nitrogenous salts on the growth of bacteria in soil, 1931, **21**, 35, ab.
— A group of non-spore-forming soil bacteria of peculiar morphology, 1926, **11**, 92, ab.
— What direction soil bacteriology?, 1933, **25**, 52, ab.
— Soil flora studies. Part I., 1917, **2**, 35

Conn, H. J. Soil flora studies. Part II., 1917, **2,** 137
— Studies on the general soil flora, 1927, **13,** 51, ab.
— Are spore-forming bacteria of any significance in soil under normal conditions?, 1916, **1,** 195, ab.; 187
— Progress in standardization of biological stains, 1929, **17,** 17, ab.
— Atkins, K. N., Brown, J. H., Cohen, B., Hucker, G. J., Tanner, F. W. Recent work on the descriptive chart and the manual of methods, 1925, **10,** 315
— — Kligler, I. J., Norton, J. F., and Harmon, G. E. Progress report for 1920 committee on bacteriological technic, 1921, **6,** 135
— Burke, V., Hall, I. C., Jennison, M. W., Kennedy, J. A., Cohen, B., and Genung, E. F. Report of the Committee on Bacteriological Technic: Progress during 1934, 1935, **29,** 2, ab.
— Atkins, K. N., Brown, H. J., Eberson, F., Harmon, G. E., Hucker, G. J., Tanner, F. W., and Waksman, S. A. Methods of pure culture study. Report of the committee on bacteriological technic, 1922, **7,** 319
— Burke, V., Cohen, B., Genung, E. F., Kulp, W. L., and Wright, W. H. Concerning the manual of methods published by the society. Report of the committee on bacteriological technic, 1928, **16,** 145
— Burke, V., Cohen, B., Genung, E. F., Hall, I. C., and Kulp, W. L. Report of the committee on bacteriological technic: new undertakings during the year 1929, 1930, **19,** 2, ab.
— Burke, V., Cohen, B., Genung, E. F., Hall, I. C., and Kulp, W. L. Report of the committee on bacteriological technic: progress during 1930, 1931, **21,** 1, ab.
— Burke, V., Hall, I. C., Kennedy, J. A., Cohen, B., and Genung, E. F. Report of committee on bacteriological technic: progress during 1931, 1932, **23,** 12, ab.
— — — — — — — Report of committee on bacteriological technic: progress during 1932, 1933, **25,** 20, ab.
— — — — — — — Report of committee on bacteriological technic: progress during 1933, 1934, **27,** 22, ab.
— and Breed, R. S. The use of the nitrate-reduction test in characterizing bacteria, 1919, **4,** 267
— and Darrow, M. A. Can the Endo medium be standardized?, 1934, **27,** 33, ab.
— and Breed, R. S. An extremely economical sugar fermentation, 1934, **27,** 51, ab.
— Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N. Methods of pure culture study. Preliminary report of the committee on the chart for identification of bacterial species, 1918, **3,** 115
— — — — — — — Methods of pure culture study. Progress report for 1918 of the committee on the descriptive chart of the society of American bacteriologists, 1919, **4,** 107
— — — — — — — Report of the committee on the descriptive chart for 1919, 1920, **5,** 127
— — — — — — — Report of committee on descriptive chart. Part II. Report of progress during 1919, 1920, **5,** 315
— and Hucker, G. J. The use of agar slants in detecting fermentation, 1920, **5,** 433
— *See* Breed, R. S., 1918, **3,** 445
— *See* Breed, R. S., 1919, **4,** 585
— *See* Breed, R. S., 1920, **5,** 489
— *chairman.* An investigation of American stains. Report of the committee on bacteriological technic, 1922, **7,** 127

Conn, H. J., chairman. An investigation of American gentian violets. Report of committee on bacteriological technic, 1922, **7,** 529
— Use of the microscope in studying the activities of bacteria in soil, 1929, **17,** 399
— Local branches of the Society of American Bacteriologists, 1935, **30,** 446
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— *See* Warden, C. C., 1921, **6,** 103
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Cook, R. C. Quantitative media for the estimation of bacteria in soils, 1916, **1,** 100, ab.
— Quantitative method for the estimation of bacteria in soils, 1916, **1,** 554, ab.
Cooke, J. V., and Keith, H. R. A type of urea-splitting bacterium found in the human intestinal tract, 1927, **13,** 315
Cooledge, L. H. Further studies on the presence of and significance of agglutinins for *Bact. abortus* (Bang) in cow's milk, 1916, **1,** 117, ab.
— Agglutination test as a means of studying the presence of *Bacterium abortus* in milk, 1916, **1,** 126, ab.
— Is *Bact. abortus* (Bang) pathogenic for human beings?, 1916, **1,** 696, ab.
Coolhaas, C. *See* Söhngen, N. L., 1924, **9,** 131
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Cooper, H. J. *See* Arkin, A., 1916, **1,** 585, ab.
Cooper, M. L. Bacteriological study of acute enteritis in infants and young children, 1933, **25,** 90, ab.
Copeland, W. R. Winter experience with the activated sludge process at Milwaukee, 1916, **1,** 457, ab.
Corbet, A. S. An organism found in the latex of *Hevea brasiliensis*, 1930, **19,** 321
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Corper, H. J. An electrical furnace for sterilizing inoculating loops, 1916, **1,** 256, ab.
— and Sweany, H. C. The enzymes of the tubercle bacillus, 1918, **3,** 129
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Corson, G. E. *See* Brown, P. E., 1916, **1,** 95, ab.
Coulter, C. B., Kabat, E. A., and Stone, F. M. The spectrographic identity of horse euglobulin and pneumococcus antibody solution purified according to Felton, 1935, **29,** 54, ab.
Coulter, E. W. *See* Ruchhoft, C. C., 1931, **21,** 407
— *See* Ruchhoft, C. C., 1931, **22,** 125
— *See* Ruchhoft, C. C., 1933, **25,** 143
Cowdry, E. V. The nature and significance of cellular inclusion bodies in diseases due to filterable viruses, 1927, **13,** 20, ab.
Cowles, P. B. A bacteriophage for *B. anthracis*, 1931, **21,** 161
— A bacteriophage for *Cl. tetani*, 1934, **27,** 163
— The recovery of bacteriophage from filtrates derived from heated spore-suspensions, 1931, **22,** 119
— The bacteriophagy of a spore-forming organism, 1930, **20,** 15
— Cellulose decomposition by anaerobic bacteria, 1930, **19,** 15, ab.
— and Rettger, L. F. Isolation and study of an apparently widespread cellulose-fermenting anaerobe, *Cl. cellulosolvens*, (n.sp.?), 1931, **21,** 167
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Crabtree, E. G. A method of demonstrating bacteria in urine by means of the centrifuge. With some observations on the relative value of examinations by culture or stained sediment, 1916, **1**, 374, ab.

Craig, C. F. Observations upon the Endamoebae of the mouth; I. *Endamoeba gingivalis* (*buccalis*), 1916, **1**, 455, ab.

Craigie, J. A comparison of the antigenic qualities of killed and living vaccine virus in the normal rabbit, 1934, **27**, 77, ab.

— Observations on the elementary bodies of vaccinia, 1933, **25**, 79, ab.

Crawford, R. R. *See* Jordan, E. O., 1935, **29**, 131

Cromwell, H. W., and Moore, M. B. Studies on pollen and pollen extracts. VI. Rabbit skin reactions in quantitative estimation of activity of pollen extracts, 1931, **21**, 59, ab.

Crowell, M. J. Morphological and physiological variations in the descendants of a single diphtheria bacillus, 1926, **11**, 65

Crowley, M. C., and Rickert, U. G. A method for estimating the bacterial content of the mouth by direct count, 1935, **30**, 395

Cruess, W. V., and Irish, J. H. Further observations on the relation of pH value to toxicity of preservatives to microörganisms, 1932, **23**, 163

— and Richert, P. H. Effect on hydrogen ion concentration on the toxicity of sodium benzoate to microörganisms, 1929, **17**, 363

Cruickshank, G. A. Employment of a double sugar medium for routine diagnosis of bacillary white diarrhea, fowl typhoid, and fowl cholera, 1927, **14**, 435

Cullen, T. S. Early tuberculosis of the cervix, 1916, **1**, 376, ab.

Culver, H. B. A study of the bacteriology of chronic prostatitis and spermatocystitis, 1916, **1**, 261, ab.

Cumming, J. G. The variations in reaction of the blood of different species as indicated by hemolysis of the red blood cells when treated with acids or alkalies, 1916, **1**, 462, ab.

Cummings, G. D. A strain of *Cl. tetanus* isolated from a human case of the disease, 1934, **27**, 99, ab.

Cummins, W. T. *See* Brown, P. K., 1916, **1**, 258, ab.

Cunningham, A. The identity of *Bacillus putrificus* Bienstock, 1932, **24**, 61

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— *See* Batchelor, H. W., 1928, **15**, 22, ab.

— *See* Batchelor, H. W., 1929, **17**, 25, ab.

— *See* Batchelor, H. W., 1930, **19**, 42, ab.

Curran, H. R. The influence of some environmental factors upon the thermal resistance of bacterial spores, 1934, **27**, 26, ab.

— The origin of the growth-restraining substance in raw milk and the action of this substance upon an organism of the sweet curdling type, 1931, **21**, 38, ab.

— Influence of osmotic pressure upon spore germination, 1931, **21**, 197

— Influence of surface tension upon the germination of bacterial spores, 1931, **21**, 211

— and Rogers, L. A. A taxonomic study of the acidophilus group, 1932, **23**, 39, ab.

— — and Whittier, E. O. The distinguishing characteristics of *Lactobacillus acidophilus*, 1933, **25**, 595

Curie, I. H., and Batchelor, H. W. A method for determining the number of azotobacter colonies in soil, 1930, **19**, 40, ab.

Curtis, L. R. *See* Stark, C. N., 1935, **29**, 27

Curtis, R. E. *See* Waksman, S. A., 1916, **1**, 558, ab.

D

Dacey, H. G. *See* Coleman, M. B., 1930, **19**, 34, ab.

Dack, G. M., Starin, W. A., and Werner, M. Study of the growth of *Cl. botulinum* and *Cl. sporogenes* in veal infusion broth under reduced pressures, 1927, **13**, 1, ab.

— *See* Mills, R. G., 1926, **11**, 107, ab.

Daland, J. Focal sepsis, 1916, **1**, 586, ab.

— Constitutional conditions caused by oral sepsis, 1916, **1**, 563, ab.

Damon, S. R. A note on the spirochaetes of termites, 1926, **11**, 31

— and Feirer, W. A. Anaerobic sporulating thermophiles. Some observations on a new group of bacteria, 1925, **10**, 37

— and Hampil, B. Studies on Leptospirae. I. Some observations on the distribution and cultivation of Leptospirae, 1929, **18**, 343

Darling, C. A. A course in general bacteriology for the college student, 1935, **30**, 445, ab. (no abstract)

Dorrow, M. A. *See* Conn, H. J., 1934, **27**, 33, ab.

— *See* Conn, H. J., 1934, **27**, 51, ab.

Davenport, C. K. *See* Gilbert, R., 1927, **13**, 35, ab.

Davey, W. P. *See* Dozois, K. P., 1932, **24**, 123

Davis, C. H. *See* Rosenow, E. C., 1916, **1**, 584, ab.

Davis, C. W. *See* Werkman, C. H., 1933, **25**, 33, ab.

Davis, D. J. Mutation-like alterations of certain pathogenic fungi, 1926, **11**, 90, ab.

— The hemolytic streptococci found in milk. Their significance and their relation to streptococci of human origin, 1916, **1**, 83, ab.

— The dissemination of human pathogenic streptococci through the cow's udder, 1935, **29**, 42, ab.

— Epidemics of septic sore throat of milk origin: present status of bacteriology and epidemiology, 1932, **23**, 87, ab.

Davis, G. E., Philip, C. B., and Parker, R. R. The isolation from the Rocky Mountain wood tick (*Dermacentor andersoni*) of strains of *Bact. tularense* of low virulence for guinea pigs and domestic rabbits, 1933, **25**, 87, ab.

Davis, J. S. *See* Famulener, L. W., 1930, **19**, 29, ab.

Davis, L. Bacteriologic peptone in relation to the production of diphtheria toxin and antitoxin, 1920, **5**, 477

— and Ferry, N. S. Studies on diphtheria toxin. II. The rôle of the amino acids in the metabolism of *Bacterium diphtheriae*, 1919, **4**, 217

Davis, M. A. *See* Hilliard, C. M., 1918, **3**, 423

Davis, N. Interfacial tension and bacterial growth, 1927, **13**, 381

Davis, R. *See* Engman, M. F., 1916, **1**, 266, ab.

Davis, R. G. An apparatus for filling vaccine ampoules, 1916, **1**, 373, ab.

Davison, W. C. The diagnosis of enteric fever (typhoid and paratyphoid A and B) by agglutination tests, 1916, **1**, 583, ab.

Davison, W. C. Observations on the properties of bacteriolysants (d'Herelle's phenomenon, bacteriophage, bacteriolytic agent, etc.). Part I., 1922, **7**, 475

— Observations on the nature of bacteriolysants (d'Herelle's phenomenon, bacteriophage, bacteriolytic agent, etc.). Part II., 1922, **7**, 491

Dawson, A. I. Bacterial variations induced by changes in the composition of culture media, 1919, **4**, 133

Dawson, M. H., and Olmstead, M. Variation in *Streptococcus hemolyticus*, 1935, **29**, 11, ab.

Day, L. A. *See* Branham, S. E., 1928, **15**, 36, ab.

DeBord, G. G. The fuchsin-aldehyde reaction on the Endo medium, 1917, **2,** 309
— Certain phases of nitrogenous metabolism in bacterial cultures, 1923, **8,** 7
Defandorfer, J. *See* Kligler, I. J., 1918, **3,** 437
Dehler, S. A., and Havens, L. C. The use of glycerin in brilliant green bile for the isolation of *B. typhosus* from feces, 1926, **11,** 104, ab.
DeKruif, P. H. *See* Wile, U. J., 1916, **1,** 258, ab.
Delaney, M. A. An epidemic of bacillary dysentery due to the Hiss-Russell bacillus, 1916, **1,** 588, ab.
DeLee, J. B. A bacteriologic study of the causes of some stillbirths, 1916, **1,** 696, ab.
Delves, E. Simultaneous immunization with a mixture of ten kinds of laked blood, 1935, **29,** 49, ab.
— *See* Hadley, P., 1931, **21,** 7, ab.
Demeter, K. J. Control of anaerobic sporeformers in Emmental cheese making, 1933, **25,** 64, ab.
— A contribution to the bacteriology of grass silage, 1930, **19,** 54, ab.
— Studies on lactic acid streptococci. II. On *Streptococcus lactis* L. and its relation to the fecal streptococci, 1929, **17,** 32, ab.
— Some facts about *Streptococcus lactis* and the litmus milk reaction, 1926, **11,** 97, ab.
— and Maier, F. X. Comparative investigations on the microbiological composition and the quality of butter, 1931, **21,** 41, ab.
Denhart, H. L. *See* Manwaring, W. H., 1916, **1,** 687, ab.
Denny, E. R. *See* Frobisher, M., Jr., 1928, **16,** 109
— *See* Frobisher, M., Jr., 1928, **16,** 301
Denson, W. P. *See* Owen, W. L., 1929, **17,** 28, ab.
Denver, B. S. *See* Olitsky, P. K., 1916, **1,** 580, ab.
Denzer, B. S. The coexistence of antibody and antigen in the body, 1916, **1,** 685, ab.
Derby, H. A. Observations on butter showing surface taint, 1930, **19,** 51, ab.
Dernby, K. G., and Blanc, J. On the growth and the proteolytic enzymes of certain anaerobes, 1921, **6,** 419
Deskowitz, M. W., and Buchbinder, L. A species of *Salmonella* producing a water-soluble pigment, 1935, **29,** 293
Dever, F. J. Specific therapy in certain acute infectious diseases, 1916, **1,** 570
Devereux, E. D., and Tanner, F. W. Observations on the growth of yeasts in pure nutrient solutions, 1927, **14,** 317
— *See* Mallmann, W. L., 1935, **29,** 70, ab.
— *See* Tanner, F. W., 1926, **11,** 45
Dewey, E. T. *See* Green, R. G., 1928, **15,** 47, ab.
— *See* Green, R. G., 1929, **17,** 54, ab.
DeWitt, L. M., and Sherman, H. The bactericidal and fungicidal action of copper salts, 1916, **1,** 567, ab.
d'Herelle, F., and Beecroft, R. Bacterial mutations, 1932, **23,** 17, ab.
Dick, G. F. *See* Dick, G. R., 1916, **1,** 464, ab.
Dick, G. R., Dick, G. F., and Rappaport, B. A Leptothrix associated with chronic hemorragic nephritis, 1916, **1,** 464, ab.
Dickinson, G. K. Soap, 1916, **1,** 364, ab.
Dienes, L. The place of bacterial allergy in the immunization process, 1935, **29,** 28, ab.
Dienst, R. B. A study of some of the factors promoting dissociation of *Bacterium dysenteriae,* Sonne, 1933, **26,** 489
— and Koser, S. A. Some observations on variation of *Bacterium dysenteriae,* Sonne type, 1932, **23,** 23, ab.

Dimitroff, V. T. *Spirillum virginianum* nov. spec., 1926, **12**, 19
— Spirochaetes in Baltimore market oysters, 1926, **12**, 135
Dimock, W. W. *See* Edwards, P. R., 1933, **25**, 60, ab.
Dingle, J. H., and Weinzirl, J. The biology of the tubercle bacillus. II. The asparagin and glycerol metabolism of the tubercle bacillus, 1932, **23**, 281
— — The asparagin and glycerin metabolism of the tubercle bacillus, 1932, **23**, 35, ab.
Dittmar, H. R., Baldwin, I. L., and Miller, S. B. The influence of certain inorganic salts on the germicidal activity of hydrogen peroxide, 1930, **19**, 203
Dix, A. *See* Broadhurst, J., 1928, **15**, 23, ab.
Do Amaral, A. Antivenin specificity, 1927, **13**, 48, ab.
Dochez, A. R., and Avery, O. T. Antiblastic immunity, 1916, **1**, 254, ab.
Dodson, W. R. *See* Leonard, L. T., 1932, **23**, 69, ab.
Doelger, W. E. P. *See* Prescott, S. C., 1927, **13**, 67, ab.
Dolloff, A. F. *See* Winslow, C.-E. A., 1928, **15**, 13, ab.
— *See* Winslow, C.-E. A., 1928, **15**, 67
Domogalla, B. A comparison of different bacteriological counting methods, 1932, **23**, 43, ab.
— Bacteriological studies before and after chlorination at the Madison sewage disposal plant, 1931, **21**, 9, ab.
— Seasonal variations in the ammonia and nitrate content of lake waters and their relation to certain types of bacteria, 1926, **11**, 93, ab.
Donk, P. J. A highly resistant thermophilic organism, 1920, **5**, 373
Dorner, W., and Hellinger, E. Studies on the Voges-Proskauer test, 1935, **29**, 16, ab.
Dorner, W. The bacterial flora of aseptically drawn milk, 1930, **19**, 44, ab.
Dorner, W. *See* Erekson, A. B., 1935, **29**, 70, ab.
Dorset, M., and Henry, R. R. Production of clear and sterilized anti-hog-cholera serum, 1916, **1**, 576, ab.
Doryland, C. J. T. Preliminary report on synthetic media, 1916, **1**, 135
Dotterrer, W. D. *See* Breed, R. S., 1916, **1**, 106, ab.
— *See* Breed, R. S., 1916, **1**, 321
Doty, A. H. Influenza, 1916, **1**, 257, ab.
Douglas, W. F. *See* Parsons, L. B., 1926, **11**, 80, ab.
— *See* Parsons, L. B., 1926, **12**, 263
Downing, L. M. *See* Ricen, L., 1928, **15**, 46, ab.
Downs, C. M., and Bond, G. C. Studies on the cultural characteristics of *Pasteurella tularense*, 1935, **30**, 485
— Anaphylaxis. Studies VII. Active anaphylaxis in turtles, 1927, **13**, 39, ab.
— Studies of tularemia infection in rabbits and guinea pigs, I., 1931, **21**, 50, ab.
— and Goodner, K. The effect of certain substances on the precipitin reaction, 1926, **11**, 106, ab.
— and Gottlieb, S. Studies on the precipitin reaction. II. The composition of the precipitate and some factors influencing its formation, 1930, **19**, 37, ab.
— Koerber, K., and Jones, H. P. A study of iso-hemolysins, 1928, **15**, 41, ab.
— *See* Gottlieb, S., 1931, **21**, 47, ab.
— *See* Sherwood, N. P., 1927, **13**, 39, ab.
Dozier, C. C. *See* Wagner, E., 1925, **10**, 321
Dozois, K. P., and Hachtel, F. The influence of heat and storage on the electrophoretic migration velocities of various microörganisms, 1935, **30**, 473

Dozois, K. P., Hachtel, F., Carr, C. J., and Krantz, J. C., Jr. A study of acid and gas formation by members of the colon - aerogenes - intermediate groups in the presence of certain sugar alcohols and their an hydrides, 1935, **30**, 189

— Tittsler, R. P., Lisse, M. W., and Davey, W. P. The effect of "low voltage" X-rays on the electrophoretic migration velocity, viability and pH of *Escherichia coli* suspensions, 1932, **24**, 123

Drake, E. T., and Sturges, W. S. Strain variations in *C. bifermentans*, 1929, **17**, 387

— *See* Sturges, W. S., 1927, **14**, 175

— *See* Sturges, W. S., 1928, **15**, 20, ab.

— *See* Sturges, W. S., 1929, **17**, 14, ab.

— *See* Sturges, W. S., 1929, **17**, 15, ab.

— *See* Sturges, W. S., 1929, **18**, 157

Drake, R. H. *See* King, W. E., 1916, **1**, 114, ab.

DuBois, P. L. *See* Olmstead, M. P., 1916, **1**, 566, ab.

— *See* Olmstead, M. P., 1916, **1**, 681, ab.

Dubos, R. J. Influence of environmental factors on the activities of aerobic bacteria concerned in the decomposition of cellulose in soils, 1927, **13**, 52, ab.

— The decomposition of cellulose by aerobic bacteria, 1928, **15**, 223

Duffett, N. D., and Hall, I. C. The relation of von Hibler's "Bacillus VI" to *Bacillus carnis* (Klein) and its differentiation from other microaerophilic bacilli, 1935, **29**, 4, ab.

— *See* Hall, I. C., 1935, **29**, 269

— The differentiation of *Bacillus fallax* (Weinberg and Seguin) from *Bacillus carnis* (Klein), 1935, **29**, 573

Duggar, B. M. The problem of seed transmission of the typical mosaic of tobacco, 1930, **19**, 20, ab.

— and Hollaender, A. Irradiation of plant viruses and of microörganisms with monochromatic light. I. The virus of typical tobacco mosaic and *Serratia marcescens* as influenced by ultraviolet and visible light, 1934, **27**, 219

— — Irradiation of plant viruses and of microörganisms with monochromatic light. II. Resistance to ultraviolet radiation of a plant virus as contrasted with vegetative and spore stages of certain bacteria, 1934, **27**, 241

Duncan, C. H. Autotherapy in poliomyelitis, 1916, **1**, 682

Dunham, D. H. Outbreak of mold in a cheese factory, 1929, **17**, 39, ab.

Dunham, D. H., and Baldwin, I. L. The relation between the legume root nodule bacteria and the host plant with reference to plant immunity, 1928, **15**, 21, ab.

— — The effect of nitrate fertilization upon the relationship between the host plant and various strains of Rhizobium spp., 1930, **19**, 42, ab.

Dunlap, S. I. *See* Rosenow, E. C., 1916, **1**, 585, ab.

Dunmire, F. *See* Sherwood, N. P., 1928, **15**, 42, ab.

Dunn, C. H. Tuberculosis in infancy, 1916, **1**, 130, ab.

Dupray, M. Coagulation and sterilization of Loeffler's medium in the autoclave, 1924, **9**, 179

— Thionin as a diagnostic stain for Pyorrhea Alveolaris, 1916, **1**, 266, ab.

Dutky, S. R. *See* Knaysi, G., 1933, **25**, 30, ab.

— *See* Knaysi, G., 1934, **27**, 109

Dutton, L. O. The occurrence of bacteriophage and variation in streptococcus colony formation, 1927, **13**, 43, ab.

— The rôle of the bacteriophage in streptococcus infections. III. As a factor in the recovery from infection. Dutton, L. O., 1927, **13**, 44, ab.

Dutton, L. O. The rôle of the bacteriophage in streptococcus infections, 1926, **11,** 89, ab.
— Microbic dissociation in streptococci, 1928, **16,** 1
— Microbic dissociation in streptococci, 1928, **15,** 38, ab.

E

Eaton, M. D. Studies on pneumococcus variation. II. Smooth virulent variants produced by daughter-colony dissociation of smooth pneumococcus strains, 1935, **30,** 119
— and Bayne-Jones, S. Purification and concentration of diphtheria toxin, 1935, **29,** 56, ab.
— Studies on pneumococcus variation. I. Variants characterized by rapid lysis and absence of normal growth under the routine method of cultivation, 1934, **27,** 271
— A quantitative study of the respiration of staphylococcus cultures lysed by bacteriophage, 1931, **21,** 143
Eberson, F. A note on the viability of meningococci on yeast agar medium, 1920, **5,** 431
— *See* Conn, H. J., 1922, **7,** 519
— *See* Levine, M., 1916, **1,** 464, ab.
Ecker, E. E. Host adaptability of *Treponema pallidum*. Some remarks on Koch's postulates in syphilis, 1933, **25,** 92, ab.
— *See* Heinemann, P. G., 1916, **1,** 435
Eckhardt, M. McL., Baldwin, I. L., and Fred, E. B. Studies on the root-nodule organism of lupinus, 1931, **21,** 273
Eddie, B. *See* Meyer, K. F., 1935, **29,** 67, ab.
Edwards, G. P. *See* Ruchhoft, C. C., 1930, **19,** 269
Edwards, P. R. Relationships of the encapsulated bacilli with special reference to *Bact. aerogenes*, 1929, **17,** 339
— The relation of encapsulated bacilli found in metritis in mares to encapsulated bacilli from human sources, 1928, **15,** 245
— The fermentation of maltose by *Bact. pullorum*, 1928, **15,** 235
— Studies on the rough and smooth variants of *Shigella equirulis* (*B. nephritidis-equi*), 1932, **24,** 283
— Further studies on the differentiation of human and animal strains of hemolytic streptococci, 1933, **25,** 527
— The antigens of *Salmonella anatum*, 1935, **30,** 269
— A serological variant of *Salmonella aertrycke* isolated from pigeons, 1935, **30,** 465
— The biochemical characters of human and animal strains of hemolytic streptococci, 1932, **23,** 259
— The differentiation of hemolytic streptococci of human and animal origin by group precipitin tests, 1934, **27,** 527
— and Broh-Kahn, R. A note on the hydrolysis of sodium hippurate by the hemolytic streptococci, 1934, **27,** 535
— and Dimock, W. W. The diversity of types present in stock cultures of Streptococcus epidemicus, 1933, **25,** 60, ab.
— and Rettger, L. F. The para-typhoid B—suipestifer group of bacteria. Studies in differentiation, 1927, **13,** 73
— *See* Beaudette, F. R., 1926, **12,** 51
Eggerth, A. H., and Gagnon, B. H. The bacteroides of human feces, 1933, **25,** 389
Eggerth, A. H. The gram-positive non-spore-bearing anaerobic bacilli of human feces, 1935, **30,** 277
Ehrenberg, H. Simple method of producing anaerobic conditions, 1927, **14,** 391
Ehret, G. A. Vaccine therapy, 1916, **1,** 253, ab.

Eichhorn, A. Vaccination experiments against anthrax, 1916, **1**, 250, ab.
Eide, O. K. *See* Thjøtta, T., 1920, **5**, 501
Eisendrath, D. N., and Kahn, J. V. Rôle of the lymphatics in ascending renal infection, 1916, **1**, 258, ab.
Ekroth, C. V. *See* Anthony, B. van H., 1916, **1**, 209
Eldering, G. *See* Kendrick, P., 1934, **27**, 97, ab.
Ellefson, L. J. *See* Hall, I. C., 1918, **3**, 329
— *See* Hall, I. C., 1918, **3**, 355
Elliott, A. R. Trichinosis, 1916, **1**, 266, ab.
Ellis, M. G. *See* Hill, J. H., 1927, **13**, 6, ab.
— *See* Hill, J. H., 1929, **17**, 205
Enders, J. F. Dissociation of the meningococcus following cultivation in the normal rabbit's blood, 1932, **23**, 93, ab.
Engelbrecht, M. A. *See* Frost, W. D., 1933, **25**, 58, ab.
England, C. W. *See* Stark, C. N., 1932, **23**, 36, ab.
— *See* Stark, C. N., 1933, **25**, 439
— *See* Stark, C. N., 1935, **29**, 26, ab.
Engman, M. F., and Davis, R. *Dermatitis herpetiformis*, 1916, **1**, 266, ab.
Enlows, E. M. A. *See* Rand, F. V., 1916, **1**, 577, ab.
Erb, C. *See* Stone, R. W., 1935, **29**, 86, ab.
— Wood, H. G., Stone, R. W., and Werkman, C. H. Intermediate behavior of succinic and acetic acids in the propionic fermentation, 1935, **29**, 85, ab.
Erekson, A. B., and Dorner, W. The bacteria responsible for ripeness in emmental cheese milk, 1935, **29**, 70, ab.
Esten, W. M. Professor H. W. Conn, 1917, **2**, 501
Esty, J. R. The biology of *Clostridium welchii*, 1920, **5**, 375
Etchells, J. L. *See* Kopeloff, L. M., 1935, **29**, 33, ab.
— *See* Kopeloff, L. M., 1935, **30**, 49
Etchells, J. L. *See* Kopeloff, L. M., 1934, **27**, 38, ab.
— *See* Kopeloff, L. M., 1934, **28**, 489
Etris, S. The antigenic relation of diphtheria organisms of the Gravis and Mitis strains, 1934, **27**, 96, ab.
— *See* Bergey, D. H., 1934, **27**, 95, ab.
Evans, A. C., and Freeman, W. Studies on the streptococcus of epidemic encephalitis, 1926, **11**, 110, ab.
— The large numbers of *Bact. abortus var. lipolyticus* which may be found in milk, 1917, **2**, 185
— Virulent streptococci and spore forming rods cultivated from so-called herpetic and encephalitis viruses, 1927, **13**, 27, ab.
— The effect of bacterial by-products on leucocytes, 1931, **21**, 42, ab.
— Life cycles in bacteria, 1929, **17**, 63
— Sensitivity to nascent phage as a character for the differentiation of the beta type of streptococci, 1935, **29**, 40, ab.
— *See* Rogers, L. A., 1916, **1**, 567, ab.
— Bacillary forms in hemolytic streptococcus cultures, 1933, **25**, 95, ab.
— Streptococcus bacteriophage and its usefulness for the identification of strains of hemolytic streptococci, 1934, **27**, 49, ab.
Evans, F. A. The cytology of the exudate in the early stages of experimental pneumonia, 1916, **1**, 464, ab.
Evans, F. *See* Tanner, F. W., 1933, **25**, 71, ab.
Evans, J. S., Middleton, W. S., and Smith, A. J. Tonsillar endamebiasis and thyroid disturbances, 1916, **1**, 468, ab.

F

Fabian, F. W. *See* Wickerham, L. J., 1935, **29**, 11, ab.
— and Bryan, C. S. The influence of cations on aerobic sporogenesis in a liquid medium, 1933, **26**, 543

Fabian, F. W., and Bryan, C. S. The influence of cations on bacterial sporogenesis in a liquid medium, 1933, **25**, 33, ab.
— and Graham, H. T. The influence of high frequency alternating current on bacteria, 1933, **25**, 34, ab.
— and McCullough, N. B. Dissociation in yeasts, 1934, **27**, 583
— — Dissociation in yeasts, 1934, **27**, 43, ab.
— and Winslow, C.-E. A. The influence upon bacterial viability of various anions in combination with sodium, 1929, **18**, 265
Fairhall, L. T., and Bates, P. M. The sterilization of oils by means of ultraviolet rays, 1920, **5**, 49
Falk, I. S. Dissociation and the epidemic problem—some observations from the study of influenza, 1932, **23**, 25, ab.
— and Harrison, R. W. The influence of hydrogen ion concentration upon the viscosity of bacterial suspensions, 1926, **12**, 97
— — The influence of hydrogen ion concentration upon the viscosity of bacterial suspensions, 1926, **11**, 85, ab.
— and Jacobson, M. A. Electrophoretic potentials: the virulence and agglutinability of pneumococci, 1926 **11**, 85, ab.
— — Some relations between the electrophoretic potential and other characteristics of variants of pneumococci, 1926, **11**, 83, ab.
— Jensen, L. B., and Mills, J. H. Simplified cataphoresis methods to estimate diphtheria bacillus virulence, 1928, **15**, 38, ab.
— — — Electrophoresis of diphtheria bacilli. III. The development of a simplified technique for electrophoretic measurement of the virulence of diphtheria bacilli, 1928, **15**, 421
— and Winslow, C.-E. A. A contribution to the dynamics of toxicity and the theory of disinfection, 1926, **11**, 1
— and Yang, S. Y. Experiments on the solubility of pneumococci in bile and in sodium oleate solutions, 1926, **11**, 106, ab.
— *See* Jacobson, M. A., 1927, **13**, 191
— *See* Jensen, L. B., 1928, **15**, 367
— *See* Jensen, L. B., 1928, **15**, 413
— *See* Shaughnessy, H. J., 1924, **9**, 559
— *See* Pittman, M., 1930, **19**, 327
— *See* Winslow, C.-E. A., 1923, **8**, 215
— *See* Winslow, C.-E. A., 1923, **8**, 237
Falk, K. G., Valentine, E., McGuire, G., and Whitney, E. Studies on antibodies. V. The use of green bananas in media for the culture of pneumococci, 1932, **23**, 235
— *See* McGuire, G., 1932, **23**, 223
Famulener, L. W., and Davis, J. S. Skin reactions following intradermal injections of vaccines prepared from intestinal bacteria. A preliminary report, 1930, **19**, 29, ab.
— *See* Heeks, W. G., 1929, **17**, 48, ab.
Farrell, M. A. A comparison of ten presumptive test media used in the detection of the escherichia-aerobacter group in milk, 1935, **30**, 654, ab.
— — Studies on the respiratory mechanism of the Streptococci, 1935, **29**, 411
— — Studies on the respiratory mechanism of the Streptococci, 1935, **29**, 10, ab.
— Comparative productivity tests of presumptive test media with pure cultures of the coli-aerogenes group, 1935, **30**, 445, ab.
— Production of peroxidase by streptococci and its possible significance, 1934, **27**, 24, ab.
— and Turner, H. G. Bacteria in anthracite coal, 1932, **23**, 155

Fawcett, E. H., and Acree, S. F. The problem of dilution in colorimetric H-ion measurements. I. Isohydric indicator methods for accurate determination of pH in very dilute solutions, 1929, **17**, 163

Fay, A. C. Thermo-tolerant organisms as a cause of so-called pin-point colonies, 1927, **13**, 347

— Thermotolerant saccharophilic organisms as a cause of "pin-point" colonies in the bacteriological analysis of ice cream, 1926, **11**, 96, ab.

— and Olson, N. E. The effect of gelatin on the bacterial content of ice cream mix, 1927, **14**, 363

Fehlmann, H. A. *See* Poe, C. F., 1933, **25**, 521

Feirer, W. A. *See* Damon, S. R., 1925, **10**, 37

Fellers, C. R. A bacteriological study of canned salmon, 1926, **12**, 181

— Spoilage of maple products by molds, 1933, **25**, 67, ab.

— and Clague, J. A. Souring of dates by yeasts, 1932, **23**, 63, ab.

— and Clough, R. W. Indol and skatol determination in bacterial cultures, 1925, **10**, 105

— Shostrom, O. E., and Clark, E. D. Hydrogen sulfide determination in bacterial cultures and in certain canned foods, 1924, **9**, 235

— and Smith, E. G. The fermentation of citron, 1934, **27**, 63, ab.

— *See* Clague, J. A., 1931, **21**, 30, ab.

Feltham, C. B. *See* ZoBell, C. E., 1934, **28**, 169

Felton, L. D. Dissociation of the specific protein precipitate of antipneumococcus horse serum, and a comparison with a protein isolated by chemical means from this immune serum, 1932, **23**, 105, ab.

— Studies on the protective substance in antipneumococcus serum. Study 21. Comparison of certain characteristics of the water-insoluble proteins of antipneumococcus and of normal horse serum, 1933, **25**, 76, ab.

— Distribution of the immunizing antigen in the pneumococcus, 1934, **27**, 90, ab.

— A description of a self-ventilating constant temperature incubator room, 1924, **9**, 169

— Kauffmann, G., and Stahl, H. J. The precipitation of bacterial polysaccharides with calcium phosphate. Pneumococcus, 1935, **29**, 149

— The fraction of the pneumococcus antigenic for human beings, 1935, **29**, 55, ab.

Ferguson, A. J. *See* Rahn, O., 1933, **25**, 28, ab.

Ferguson, R. L. *See* Tittsler, R. P., 1932, **23**, 481

Ferguson, W. W. *See* Behrens, C. A., 1933, **25**, 79, ab.

Ferry, N. S. Meningococcus antitoxin: prophylactic and therapeutic tests on monkeys and other laboratory animals, 1932, **23**, 97, ab.

— and Noble, A. Studies relative to the apparent close relationship between *Bact. pertussis* and *B. bronchisepticus*. I. Cultural agglutination and absorption reactions, 1918, **3**, 193

— and Klix, H. C. Studies relative to the apparent close relationship between *Bact. pertussis* and *B. bronchisepticus*. II. Complement fixation tests, 1918, **3**, 309

— and Noble, A. Ozena and distemper: comparative study of *Coccobacillus foetidus-ozaenae* and *Bacillus bronchisepticus*, 1918, **3**, 499

— *See* Clark, L. T., 1931, **21**, 58, ab.

— *See* Davis, L., 1919, **4**, 217

Fessenden, E. M. *See* Lipsitz, S. T., 1916, **1**, 579, ab.

Field, J. T. *See* Poe, C. F., 1928, **15**, 9, ab.

Field, J. T. *See* Poe, C. F., 1931, **21**, 11, ab.

Fielder, F. S. The treatment of human rabies with quinin and with phenol., 1916, **1**, 579, ab.

Fischer, L. Chronic tonsillitis, 1916, **1**, 257, ab.

— Erysipelas migrans and multiple abscesses in a six months' old infant successfully treated with vaccines, 1916, **1**, 569, ab.

Fish, E. S. *See* Bernstein, H. S., 1916, **1**, 361, ab.

Fisher, E. A. *See* Noble, W. C., Jr., 1927, **13**, 33, ab.

Fisher, L. W. *See* Mellon, R. R., 1932, **23**, 18, ab.

— *See* Mellon, R. R., 1933, **25**, 45, ab.

Fisk, R. T. *See* Kessel, J. F., 1932, **23**, 113, ab.

Fitch, C. P., and Billings, W. A. A study of the action of eight strains of *Bact. abortivo-equinus* on certain of the carbohydrates, 1920, **5**, 469

— and Bishop, L. M. A study of methods used for the isolation of *Brucella abortus* from milk, 1935, **30**, 332, ab.

Fite, G. L. *See* Webster, L. T., 1934, **27**, 74, ab.

Fitzgerald, H. *See* Mackenzie, G. M., 1935, **29**, 583

Fitzpatrick, C. B. The utilization of "reactor" milk in tuberculo-medicine, 1916, **1**, 127, ab.

Fitzpatrick, C. P. *See* Poor, D. W., 1916 **1**, 703, ab.

Fleming, W. L. *See* Neill, J. M., 1929, **17**, 329

Flexner, S. The 1931 strain of poliomyelitis virus, 1932, **23**, 100 ab. (no abstract)

— A note on the serum treatment of poliomyelitis (infantile paralysis), 1916, **1**, 682, ab.

— and Amoss, H. L. Chemical versus serum treatment of epidemic meningitis, 1916, **1**, 466, ab.

Florence, L. Spiral bodies in bacterial cultures, 1921, **6**, 371

Flosdorf, E. W., and Chambers, L. A. Comparative antigenic studies on egg albumin denatured by intense audible sound and by other means, 1934, **27**, 92, ab.

Floyd, C. *See* Morse, J. L., 1916, **1**, 703, ab.

Flynn, C. S., and Rettger, L. F. Variation and filtrability studies on *B. mesentericus* and *B. vulgatus*, 1934, **28**, 1

Follensby, E. M. *See* Hooker, S. B., 1932, **23**, 85, ab.

Foote, M., Peterson, W. H., and Fred, E. B. Fermentation of pentoses by certain propionic acid bacteria, 1930, **19**, 17, ab.

Force, J. N. Etiology and laboratory diagnosis of smallpox and chickenpox, 1916, **1**, 581, ab.

— The laboratory examination of material in a case of suspected smallpox, 1916, **1**, 580, ab.

Ford, W. W. Studies on aerobic spore-bearing non-pathogenic bacteria, Part I., 1916, **1**, 273

— Classification of spore-bearing bacteria, 1916, **1**, 527

— *See* Lawrence, J. S., 1916, **1**, 277

Foster, G. B. The etiology of commont colds, 1916, **1**, 586, ab.

Foster, L. F. The biochemistry of *Streptococcus hemolyticus*, 1921, **6**, 211

— The relation of hydrogen-ion concentration to the growth, viability, and fermentative activity of *Streptococcus hemolyticus*, 1921, **6**, 161

— and Randall, S. B. A study of the variations in hydrogen-ion concentration of broth media, 1921, **6**, 143

Foster, R. L. *See* Moore, E. E., 1930, **19**, 5, ab.

Foter, M. J. *See* Stark, C. N., 1931, **21**, 37, ab.

Foter, M. J. Minimum temperatures for the growth and fermentation of certain lactic acid bacteria, 1935, **30**, 211, ab.

Fothergill, L. D., Wright, J., and Ward, H. K. The specific treatment of influenzal meningitis, 1932, **23**, 99, ab.

Foucar, F. H. Bacillary dysentery, recent epidemic at Fort Shafter, H. T., from the laboratory aspect, 1916, **1**, 588, ab.

Fowler, G. J. The activated sludge process of sewage treatment, 1916, **1**, 251, ab.

Fowler, L. W. *See* Lipman, C. B., 1916, **1**, 553, ab.

Fox, H. H. Vaccine therapy and other treatment in acne vulgaris and furunculosis, 1916, **1**, 682, ab.

France, R. L. Studies of *Bacterium coli* in privately owned rural water supplies, 1933, **25**, 623

Frank, I. *See* Strouse, S., 1916, **1**, 255, ab.

Fraser, F. H., and Ross, M. A. The use of chinchilla rabbits for the titration of streptococcal toxin, 1932, **23**, 84, ab.

Frazier, W. C. A new method for the detection of proteolysis by bacteria, 1926, **11**, 80, ab.

— The use of *Streptococcus thermophilus* in ripening milk for Swiss cheese, 1933, **25**, 63, ab.

— and Boyer, A. J. A method of distinguishing living from dead cells of Gram-positive bacteria by stained preparations, 1934, **27**, 31, ab.

— Burkey, L. A., Matheson, K. J., and Watson, P. D. The use of certain streptococci as starters for Swiss cheese, 1930, **19**, 50, ab.

— and Rupp, P. Studies on the proteolytic bacteria of milk. I. A medium for the direct isolation of caseolytic milk bacteria, 1928, **16**, 57

— — Studies on the proteolytic bacteria of milk. II. Action of the proteolytic bacteria of milk on milk, 1928, **16**, 65

— — Studies on the proteolytic bacteria of milk. III. Action of proteolytic bacteria of milk on casein and gelatin, 1928, **16**, 187

— — Studies on the proteolytic bacteria of milk. IV. Action of proteolytic milk bacteria on amino acids and other simple nitrogenous compounds, 1928, **16**, 231

— and Rupp, P. Studies on the proteolytic bacteria of milk. V. Action of proteolytic bacteria on milk serum, 1931, **21**, 263

— — Studies on the proteolytic bacteria of milk, 1928, **15**, 29, ab.

— Sanders, G. P., Boyer, A. J., and Long, H. F. The bacteriology of Swiss cheese. I. Growth and activity of bacteria during manufacturing processes in the Swiss cheese kettle, 1934, **27**, 539

— and Whittier, E. O. Studies on the influence of bacteria on the oxidation-reduction potential of milk. I. Influence of pure cultures of milk organisms, 1931, **21**, 239

— and Whittier, E. O. Studies on the influence of bacteria on the oxidation-reduction potential of milk. II. Influence of associated cultures of milk organisms, 1931, **21**, 253

— and Wing, H. U. *Bacterium acidipropionicid* and other lactate-fermenting bacteria of Swiss cheese, 1932, **23**, 60, ab.

— — Studies on the eye-forming organism of Swiss cheese, 1931, **21**, 39, ab.

— *See* Burkey, L. A., 1930, **19**, 49, ab.

Fred, E. B. Relation of carbon bisulphid to soil organisms and plant growth, 1916, **1**, 361, ab.

— Relation of green manures to the failure of certain seedlings, 1916, **1**, 361, ab.

— Effect of grinding soil on the number of microörganisms, 1916, **1**, 675, ab.

Fred, E. B. Antony van Leeuwenhoek. On the three-hundredth anniversary of his birth, 1933, **25,** 1
— and Graul, E. J. Some factors that influence nitrate formation in acid soils, 1916, **1,** 558, ab.
— and Loomis, N. E. Influence of hydrogen-ion concentration of medium on the reproduction of alfalfa bacteria, 1917, **2,** 629
— and Peterson, W. H. The production of pink sauerkraut by yeasts, 1922, **7,** 257
— — and Anderson, J. A. The fermentation of arabinose and xylose by certain aerobic bacteria, 1923, **8,** 277
— — and Carroll, W. R. The occurrence of a red pigment producing organism in corn mash of the acetone butyl alcohol fermentation, 1925, **10,** 97
— — and Mulvania, M. The effect of lactic acid bacteria on the acetone-butyl alcohol fermentation, 1926, **11,** 323
— — and Stiles, H. R. The biochemistry of the granulated lactic acid bacteria from cereals, 1925, **10,** 63
— *See* Allgeier, R. J., 1929, **17,** 79
— *See* Anderson, J. A., 1927, **13,** 54, ab.
— *See* Baldwin, I. L., 1927, **13,** 49, ab.
— *See* Baldwin, I. L., 1928, **15,** 8, ab.
— *See* Baldwin, I. L., 1929, **17,** 17, ab.
— *See* Baldwin, I. L., 1929, **17,** 141
— *See* Eckhardt, M. McL., 1931, **21,** 273
— *See* Foote, M., 1930, **19,** 17, ab.
— *See* Langlykke, A. F., 1935, **29,** 86, ab.
— *See* Reid, J. J., 1935, **29,** 75, ab.
— *See* Wenck, P. R., 1935, **29,** 89, ab.
— *See* Tatum, E. L., 1935, **29,** 563
— *See* Fulmer, H. L., 1917, **2,** 423
— *See* Hopkins, E. W., 1928, **15,** 22, ab.
— *See* Hopkins, E. W., 1929, **17,** 22, ab.
— *See* Ingraham, M. A., 1933, **25,** 23, ab.
— *See* Keipper, C. H., 1930, **19,** 53, ab.
— *See* Peterson, W. H., 1928, **15,** 165
— *See* Peterson, W. H., 1929, **17,** 27, ab.
— *See* Stiles, H. R., 1926, **12,** 427
— *See* Tatum, E. L., 1932, **23,** 73, ab.
— *See* Tatum, E. L., 1934, **27,** 207
— *See* Wilson, P. W., 1933, **25,** 54, ab.
— *See* Wilson, P. W., 1930, **19,** 231
— *See* Wilson, P. W., 1930, **19,** 17, ab.
— *See* Williams, F. T., 1934, **27,** 58, ab.
Freeman, D. V. *See* van Saun, A. I., 1929, **17,** 51, ab.
Freeman, L. Chronic general infection with the *Bacillus pyocyaneus*, 1916, **1,** 698, ab.
Freeman, R. G., Jr., and Miller, E. G., Jr. A note on a simple method for obtaining uncontaminated samples of intestinal content from various levels with a duodenal tube, 1924, **9,** 301
Freeman, W. *See* Evans, A. C., 1926, **11,** 110, ab.
Freese, H. L. *See* Burky, E. L., 1931, **22,** 309
Freund, J. Response of tuberculous animals to toxins, 1935, **30,** 443, ab.
Frey, C. N. The industrial production and uses of yeast, 1935, **30,** 443, ab. (no abstract)
— Yeast, its manufacture and use, 1933, **25,** 67, ab.
Friedberg, S. A. Removal of tonsils and adenoids in diphtheria carriers, 1916, **1,** 257, ab.
Friesner, I. The etiology and pathology of otitic cerebellar abscess, 1916, **1,** 696, ab.
Frisch, A. W. *See* Levine, P., 1935, **29,** 67, ab.
Frobisher, M., Jr. Some pitfalls in bacteriology, 1933, **25,** 565
— Studies upon the relationship between surface tension and the action of disinfectants, with special reference of hexylresorcinol, 1927, **13,** 163
— and Brown, J. H. A study of the toxicogenic properties of some streptococci, 1927, **13,** 44, ab.
— and Denny, E. R. A study of *Micrococcus zymogenes*, 1928, **16,** 301

Frobisher, M., Jr., and Denny, E. R. Variations of streptococci with a note on hemolysin production, 1928, **16**, 109
Frost, W. D. Comparison of rapid method of counting bacteria in milk with standard method, 1916, **1**, 103, ab.
— Counting the living bacteria in milk—a practical test, 1917, **2**, 567
— A rapid method of counting living bacteria in milk and other richly seeded materials, 1916, **1**, 374, ab.
— Carriers of *Streptococcus epidemicus*, 1932, **23**, 88, ab.
— and Bachmann, F. M. Another use of the double-plate method, 1916, **1**, 693, ab.
— — Another use of the double-plate method, 1916, **1**, 92, ab.
— — The effect of air pressure on potable waters during storage, 1916, **1**, 106, ab.
— and Engelbrecht, M. A. The streptococci found in freshly drawn milk, 1933, **25**, 58, ab.
— Gumm, M., and Thomas, R. C. The types of hemolytic streptococci in certified milk, 1927, **13**, 61, ab.
— *See* Bachmann, F. M., 1932, **23**, 39, ab.
— *See* Brown, J. H., 1926, **11**, 110, ab.
— *See* Conn, H. J., 1918, **3**, 115
— *See* Conn, H. J., 1919, **4**, 107
— *See* Conn, H. J., 1920, **5**, 127
— *See* Conn, H. J., 1920, **5**, 315
Frost, W. H. Confirmatory tests for *B. coli* in routine water examinations, 1916, **1**, 565, ab.
Fuller, J. E. *See* Syrocki, A. V., 1935, **30**, 211, ab.
Fulmer, E. I., and Grimes, M. The growth of yeasts on synthetic agar media, 1923, **8**, 585
— Williams, A. L., and Werkman, C. H. The effect of sterilization of media upon their growth promoting properties toward bacteria, 1931, **21**, 299
— *See* Breden, C. R., 1930, **19**, 41, ab.
— *See* Moore, E. E., 1930, **19**, 5, ab.
— *See* Schopmeyer, H., 1931, **22**, 23
Fulmer, H. L., and Fred, E. B. Nitrogen-assimilating organisms in manure, 1917, **2**, 423
Fulton, M., and Stuart, C. A. Growth curves of *Escherichia coli* and *Salmonella schottmuelleri* in mixed cultures, 1935, **29**, 18, ab.
— *See* Carpenter, P. L., 1935, **29**, 18, ab.
— *See* Carpenter, P. L., 1935, **30**, 137
Funk, E. H. *See* Huntoon, F. M., 1931, **21**, 57, ab.
Furth, J. On filterable viruses of leukosis and sarcoma of chickens, 1934, **27**, 79, ab.
Futaki, K., Takaki, E., Taniguchi, T., and Osumi, S. The cause of rat-bite fever, 1916, **1**, 259, ab.

G

Gaarde, F. W. *See* Kretschmer, H. L., 1916, **1**, 695, ab.
Gage, G. E., and Martin, J. F. Notes on the histo-pathology of the intestines in young chicks infected with *Bacterium pullorum*, 1916, **1**, 553, ab.
Gage, S. H. Veranus Alva Moore, 1859–1931, 1931, **22**, 1
Gagnon, B. H. *See* Eggerth, A. H., 1933, **25**, 389
Gahl, R. Description of an organism found in solutions of sodium caseinate, 1928, **16**, 35
Gaillard, M. S. B. *See* Pratt, J. S., 1932, **23**, 90, ab.
Gainey, P. L. Fatty acids as sources of energy for *Azotobactor*, 1928, **15**, 21, ab.
— The indirect effect of certain soil treatments upon bacterial activity, 1916, **1**, 98, ab.
— The effect of time and depth of cultivating a wheat seed bed upon bacterial activity in the soil, 1916, **1**, 676, ab.

Gainey, P. L., and Gibbs, W. W. Bacteriological studies of a soil subjected to different systems of cropping for twenty-five years, 1916, **1,** 678, ab.

Gallagher, C. D. Observations on variants derived from two strains of *Streptococcus hemolyticus*, 1931, **22,** 363

Gallo, F. *See* Mallmann, W. L., 1932, **23,** 33, ab.

Galt, R. H. *See* Koser, S. A., 1926, **11,** 293

Gardner, C. G. *See* Skinner, C. E., 1930, **19,** 161

Gates, F. L. On the survival of *Bacterium typhosum* intraperitoneally implanted in collodion sacs, 1925, **10,** 47

Gay, F. P., Atkins, K. N., and Holden, M. The resistance of dehydrated pneumococci to chemicals and heat, 1931, **22,** 295

— and Chickering, H. T. Treatment of typhoid fever by intravenous injections of polyvalent sensitized typhoid vaccine sediment. Studies in typhoid immunization. VI., 1916, **1,** 128, ab.

— and Clark, A. R. The differentiation of living from dead bacteria by staining reactions, 1934, **27,** 175

Gebhardt, L. P. *See* Clifton, C. E., 1931, **22,** 7

Gee, A. H., and Hunt, G. A. Single cell technic. A presentation of the pipette method as a routine laboratory procedure, 1928, **16,** 327

— *See* Speakman, H. B., 1928, **15,** 319

Gee, H. Special methods in marine bacteriology and preliminary surveys of Pacific waters, 1930, **19,** 11, ab.

— Mechanical spinner for Esmarch cultures, 1932, **24,** 35

— Filtration technic, 1932, **24,** 29

Gehm, H. W., and Heukelekian, H. Eosin methylene blue smear agar for rapid direct count of *E. coli*, 1935, **29,** 28, ab.

Geiger, J. C., Kelly, F. L., and Bathgate, V. M. Diphtheria carriers, 1916, **1,** 258, ab.

Geist, S. H. *See* Wilensky, A. O., 1916, **1,** 580, ab.

Gelarie, A. J. Vitality of *Cholera vibrio* in the water of New York Bay, 1916, **1,** 251, ab.

Genung, E. F. Teaching bacteriology in a college of liberal arts, 1927, **13,** 69, ab.

— *See* Conn, H. J., 1935, **29,** 2, ab.

— and Thompson, L. E. Color diffusion in Endo agar, 1927, **14,** 139

— *See* Conn, H. J., 1928, **16,** 145

— *See* Conn, H. J., 1930, **19,** 2, ab.

— *See* Conn, H. J., 1931, **21,** 1, ab.

— *See* Conn, H. J., 1932, **23,** 12, ab.

— *See* Conn, H. J., 1933, **25,** 20, ab.

— *See* Conn, H. J., 1934, **27,** 22, ab.

— *See* Reed, M. V., 1934, **27,** 29, ab.

Georgi, C. E., Wilson, P. W., and Peterson, W. H. Respiration studies on Rhizobia from various leguminous plants, 1933, **25,** 53, ab.

Georgia, F. R., and Poe, C. F. Study of bacterial fluorescence in va ious media. I. Inorganic substances necessary for bacterial fluorescence, 1931, **22,** 349

— — Study of bacterial fluorescence in various media. II. The production of fluorescence in media made from peptones, 1932, **23,** 135

Gerber, L., and Gerwe, E. Tissue extracts and anaphylactic shock, 1935, **29,** 32, ab.

Gerdeman, A. E. *See* Weinzirl, J., 1929, **17,** 38, ab.

Gerwe, E. *See* Gerber L., 1935, **29,** 32, ab.

Gibbard, J. A simplified culture medium for the isolation of *Neisseria gonorrhoeae*, 1929, **17,** 47, ab.

Gibbons, N. E., and Reed, G. B. The effect of autolysis in sterile tissues on subsequent bacterial decomposition, 1930, **19,** 73

Gibbs, C. S. The desiccation and preservation of infectious laryngotracheitus virus, 1933, **25,** 245
— Filterable virus carriers, 1932, **23,** 113, ab.
— Ultrafiltration experiments with the viruses of laryngotracheitis and coryza of chickens, 1935, **30,** 411
— Saprophytic and secondary microorganisms occurring in the respiratory tracts of domestic fowls and chickens in health and in disease, 1931, **21,** 97
— Do saprophytic and secondary bacteria occurring in the respiratory tracts of domestic fowl in infectious trachitis and in health produce agglutinins in the blood?, 1931, **21,** 45, ab.
Gibbs, H. D. *See* Clark, W. M., 1926, **11,** 81, ab.
Gibbs, W. M. *See* Gainey, P. L., 1916, **1,** 678, ab.
Gibbs, W. W., Batchelor, H. W., and Sickels, T. N. Surface tension and bacterial growth, 1926, **11,** 393
Gibson, F. O. *See* Burke, V., 1933, **26,** 211
Gibson, T. An investigation of the *Bacillus pasteuri* group. I. Description of strains isolated from soils and manures, 1934, **28,** 295
— An investigation of the *Bacillus pasteuri* group. II. Special physiology of the organisms, 1934, **28,** 313
— An investigation of the *Bacillus pasteuri* group. III. Systematic relationships of the group, 1935, **29,** 491
Gifford, S. R. Notes on the fusiform bacilli of Vincent's angina, 1920, **5,** 365
Gilbert, I. Dissociation in an encapsulated staphylococcus, 1931, **21,** 157
Gilbert, R. *Corynebacterium ulcerans:* its possible epidemiological importance, 1929, **17,** 52, ab.
— and Coleman, M. B. Recent cases of undulant fever in New York state, 1928, **15,** 40, ab.
— and Coleman, M. B. Agglutination with *B. proteus* X19 in specimens submitted for other serological tests, 1935, **29,** 46, ab.
— and Coleman, M. B. A study of undulant fever in New York state, 1933, **25,** 87, ab.
— Coleman, M. B., and Laviano, A. B. A study of the granular and floccular types of agglutination in *B. typhosus,* 1932, **23,** 110, ab.
— and Davenport, C. K. Failure of the mouse test to demonstrate the presence of type-I pneumococcus in sputum. An unusual instance, 1927, **13,** 35, ab.
— and Humphreys, E. M. The use of potassium tellurite in differential media, 1926, **11,** 141
Gillen, G. *See* Werkman, C. H., 1931, **21,** 6, ab.
— *See* Werkman, C. H., 1932, **23,** 167
Gillespie, H. B. *See* Rettger, L. F., 1932, **23,** 15, ab.
— *See* Rettger, L. F., 1935, **30,** 213
— *See* Rettger, L. F., 1935, **29,** 13, ab.
— *See* Rettger, L. F., 1933, **26,** 289
Gillespie, L. J. Color standards for the colorimetric measurement of H-ion concentration, 1921, **6,** 399
Gilman, H. L. The agglutination titre of milk as an indicator of the presence of *Bact. abortus* in milk, 1931, **21,** 53, ab.
Gilpin, L. *See* Broadhurst, J., 1926, **11,** 95, ab.
Giltner, W. Charles Edward Marshall, 1866–1927, 1927, **13,** 379
— and Langworthy, H. V. Some factors influencing the longevity of soil microörganisms subjected to desiccation, with special reference to soil solution, 1916, **1,** 123, ab.

Giltner, W., and Langworthy, H. V. The influence of soil solution on the longevity of microörganisms subjected to desiccation, 1916, **1**, 96, ab.

— and Ludlum, L. C. Amniotic fluid as a bacterial culture medium, 1916, **1**, 91, ab.

Glaser, R. W. A bacterial disease of silkworms, 1924, **9**, 339

Glick, D. P. The effects of microbiological activity during the aging of some moist ceramic materials, 1935, **29**, 79, ab.

Gochenour, W. S., and Bunyea, H. The filtration of colloidal substances through bacteria-retaining filters, 1920, **5**, 363

Goebel, W. F. *See* Avery, O. T., 1934, **27**, 89, ab.

Goff, A. P. Diphtheria in Manila, 1916, **1**, 377, ab.

Goldberg, R. *See* Gurley, C. R., 1934, **27**, 94, ab.

Goldsmith, N. R. Differences in effect of phenyl mercuric chloride upon different races of bacteriophage and similarity in effect upon a phage and its homologous organism, 1935, **30**, 237

Goldstein, J. D. Further observations on cutaneous reactions in undulant fever, 1935, **30**, 446, ab.

Gonshorek, M. F. *See* Spicer, E. L., 1933, **26**, 505

Gonzales, F. L. *See* Holman, W. L., 1923, **8**, 577

Good, E. S., and Corbett, S. S. A study of gas-production by different strains of *Bacillus abortivo-equinus*, 1916, **1**, 681, ab.

— and Smith, W. V. *Bacillus abortus* (Bang) as an etiological factor in infectious abortion in swine, 1916, **1**, 415

— and Smith, W. V. The maintenance of virulence of *Bacillus abortivus equinus*, 1916, **1**, 249, ab.

— — The production of a hyperimmune serum for infectious abortion in mares, 1916, **1**, 568, ab.

Goodale, J. L. Preliminary notes on skin reactions excited by various bacterial proteins in certain vasomotor disturbances of the upper air passages, 1916, **1**, 368, ab.

Goodner, K. Certain host factors involved in the protective action of antipneumococcus serum in experimental infections in rabbits, 1934, **27**, 98, ab.

— *See* Downs, C. M., 1926, **11**, 106, ab.

— *See* May, H. G., 1927, **13**, 129

Goodpasture, E. W., and Buddingh, G. J. Properties of vaccine cultivated in the chorio-allantoic membrane of chick embryos, 1934, **27**, 76, ab.

Gordon, F. B., Harrison, J. A., and Hudson, N. P. Immunization of monkeys by means of poliomyelitis virus adsorbed to alumina-gel, 1935, **29**, 62, ab.

Gordon, R. *See* Stark, C. N., 1932, **23**, 18, ab.

Goresline, H. E. Studies on agar-digesting bacteria, 1933, **26**, 435

— Use of the spiral absorber for the, determination of carbon dioxide 1934, **27**, 65

— A new species belonging to the genus bacillus, 1934, **27**, 72, ab.

— A pipette electrode for the determination of pH in biological fluids, 1933, **25**, 435

— and Levine, M. Notes on monilia-like organisms from a trickling filter receiving creamery wastes, 1930, **19**, 51, ab.

— Agar digesting bacteria, 1935, **30**, 445, ab.

Gorini, C. Dissociation of acido-proteolytic bacteria by the climbing culture method, 1929, **17**, 1, ab.

— The acidoproteolytes in gaseous associative fermentation in milk, 1934, **27**, 69, ab.

Gorini, C. The acidoproteolytes (Gorini) in milk pasteurization, 1931, **21,** 42, ab.
— A method for detecting chymase production by bacteria, 1933, **25,** 65, ab.
— Dissociation of acidoproteolytic bacteria by thermobiotic culture, 1930, **19,** 14, ab.
— Studies on the biology of lactic acid bacteria: a summary of personal investigations, 1922, **7,** 271
— Filterable migrant forms of mammococcus, 1932, **23,** 27, ab.
— Rennin production by *Bacillus prodigiosus*, 1930, **20,** 297
Goss, M. J. *See* Phillips, M., 1935, **29,** 83, ab.
Gott, E. J. *See* Healy, D. J., 1916, **1,** 357, ab.
Gottheil, W. S. The value of autoserum injections in skin diseases, 1916, **1,** 570
Gottlieb, M. J. *See* Oppenheimer, S., 1916, **1,** 368, ab.
Gottlieb, S., and Downs, C. M. Studies on the precipitin reaction. III. Further studies on conditions influencing the formation of precipitates, 1931, **21,** 47, ab.
— *See* Downs, C. M., 1930, **19,** 37, ab.
Gould, B. S. *See* Horwood, M. P., 1934, **27,** 66, ab.
Gowda, R. N. Nitrification and the nitrifying organisms. I., 1924, **9,** 251
Gradwohl, R. B. H. Cultural characteristics of *Neisseria gonorrheae*, 1931, **21,** 48, ab.
Graham, H. B. Tuberculosis of the middle ear, 1916, **1,** 695, ab.
Graham, H. T. *See* Fabian, F. W., 1933, **25,** 34, ab.
Graham, R., and Brueckner, A. L. Studies in forage poisoning. The relation of *B. botulinus* to forage poisoning or cerebrospinal meningitis in horses, 1919, **4,** 1
— and Himmelberger, L. R. The effect on horses of feed heavily inoculated with *B. coli* isolated from oat hay, 1916, **1,** 115, ab.
— and Himmelberger, L. R. The value of virulent salt solution in the production of anti-hog-cholera serum by the intravenous method, 1916, **1,** 358, ab.
— and Schwarze, H. R. Botulism in cattle, 1921, **6,** 69
— *See* Park, S. E., 1932, **24,** 461
Grant, C. W., and Rettger, L. F. A systematic study of the Mucosus-capsulatus group, with special reference to the biological position of *Klebsiella pneumoniae* and *Aerobacter aerogenes*, 1933, **25,** 42, ab.
Graul, E. J. *See* Fred, E. B., 1916, **1,** 558, ab.
Gray, J. D. A. The significance of brucellar agglutinins in human sera, 1933, **25,** 415
Gray, P. H. H. A method of staining bacterial flagella, 1926, **12,** 273
Graybiel, A. *See* Mueller, J. H., 1933, **25,** 509
Greaves, J. D. *See* Greaves, J. E., 1928, **16,** 409
— *See* Greaves, J. E., 1934, **28,** 159
— *See* Pulley, H. C., 1932, **24,** 145
Greaves, J. E. Stimulating influence of arsenic upon the nitrogen-fixing organisms of the soil, 1916, **1,** 554, ab.
— and Carter, E. G. Influence of barnyard manure and water upon the bacterial activities of the soil, 1916, **1,** 676, ab.
— Can *Azotobacter chroococcum* synthesize vitamin D?, 1935, **30,** 143
— Zobell, C. E., and Greaves, J. D. The influence of iodine upon the growth and metabolism of yeasts, 1928, **16,** 409
— Greaves, J. D., and Hickman, I. The growth and metabolism of mixed cultures of ammonia-producing microörganisms, 1934, **28,** 159

Greeley, H. Cultivation of the organisms of vaccinia, variola, and varicella, 1916, **1**, 702, ab.
Green, B. B. *See* Green, R. G., 1928, **15**, 47, ab.
Green, H. W. *See* Bunker, G. C., 1918, **3**, 493
Green, R. G. Symptoms of epidemic encephalitis of foxes, 1928, **15**, 48, ab.
— An apparatus for the rapid measurement of surface tension, 1922, **7**, 367
— and Halvorson, H. O. Studies on the etiology of distemper in foxes, 1926, **11**, 100, ab.
— Ziegler, N. R., Dewey, E. T., and Shillinger, J. E. Experimental transmission of epizootic encephalitis of foxes, 1929, **17**, 54, ab.
— — Halvorson, H. O., Green, B. B., and Dewey, E. T. Epidemic encephalitis in foxes, 1928, **15**, 47, ab.
— and Wade, E. M. Experimental tularemia infection in birds, 1929, **17**, 55, ab.
— On the nature of filterable viruses, 1935, **30**, 331, ab.
— *See* Buggs, C. W., 1935, **30**, 447
— *See* Buggs, C. W., 1935, **30**, 453
Greenbank, G. R. *See* Rogers, L. A., 1929, **17**, 2, ab.
— *See* Rogers, L. A., 1930, **19**, 181
Greene, H. C. *See* Wenck, P. R., 1935, **29**, 89, ab.
Greenfield, M. A new ice sampler, 1916, **1**, 623
Greer, F. E. Growth of spore-forming anaerobes at 50°C., 1926, **12**, 243
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Griffiths, L. L. *See* Bigger, J. W., 1933, **25**, 253
Grimes, M. *See* Fulmer, E. I., 1923, **8**, 585
Grinnell, F. B. On the antigenic relationship of the rough and smooth variants of *B. typhosus*, 1932, **23**, 24, ab.
— Observations on some of the factors involved in filtration experiments, 1929, **18**, 175
— Streptococcus studies. I. *Streptococcus viridans* derived from single cell strains of *Streptococcus hemolyticus*, 1928, **16**, 117
— *See* Zinsser, H., 1927, **13**, 30, ab.
— *See* Zinsser, H., 1927, **14**, 301
Griswold, D. M. The Schick test, 1916, **1**, 573, ab.
Grossman, A. B. *See* Perkins, R. G., 1929, **17**, 49, ab.
Grover, A. L. Yeasts, probably pathogenic, recovered from routine throat cultures, 1916, **1**, 121, ab.
Grubb, T. C., and Koser, S. A. Coccus forms of *C. diphtheriae*, 1934, **27**, 45, ab.
Gruzit, O. M. *See* Morgan, J. F., 1916, **1**, 97, ab.
Guiteras, A. F. *See* Schmelkes, F. C., 1934, **27**, 36, ab.
Güll, J., and Broadhurst, J. Potato utilization as indicated by hydrogen peroxide, 1927, **13**, 4, ab.
Gumm, M. *See* Frost, W. D., 1927, **13**, 61, ab.
Gundersen, E. *See* Thjøtta, T., 1925, **10**, 1
Gunderson, M. F. Insects as carriers of *Clostridium botulinum*, 1935, **30**, 333, ab.
Gurley, C. R., Castelda, M., and Goldberg, R. Correlation of agglutinative types and endotoxin, 1934, **27**, 94, ab.
— and Van Winkle, C. C. Studies on the cultivation of the rabies virus, 1916, **1**, 697, ab.
— *See* Williams, A. W., 1932, **23**, 241
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Hachtel, F. *See* Dozois, K. P., 1935, **30**, 473
— *See* Dozois, K. P., 1935, **30**, 189
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Hadley, P. Microbic dissociation and the mutation myth, 1927, **13**, 41, ab.
— The rôle of homologous immune serum in microbic dissociation, 1927, **13**, 40, ab.
— A method of staining lytic areas produced by the bacteriophage, 1924, **9**, 405
— Coccidia in subepithelial infections of the intestines of birds, 1917, **2**, 73
— Studies on fowl cholera. V. The toxins of *Bacillus aviseptícus*, 1918, **3**, 277
— The variation in size of lytic areas and its significance, 1924, **9**, 397
— The relation of the bacterial variants of Kuhn to the chief phases in microbic dissociation, 1933, **25**, 572
— Note on the reaction of the paratyphoids, alpha and beta, in litmus milk, 1917, **2**, 263
— Caldwell, D. W., and Heath, B. M. Bacteriological notes. I. Gas production by *Bact. pullorum*. II. *Bact. pullorum* infections in adult birds. III. Relation between sucrose-fermentation and immunizing power by *B. aviseptícus*, 1919, **4**, 65
— and Carapetian, H. A study of the infective qualities possessed by G phase cultures of *Bacillus typhosus*, 1933, **25**, 94, ab.
— Delves, E., and Klimek, J. The filterable forms of bacteria, 1931, **21**, 7, ab.
Hagan, W. A. The diagnosis of anthrax from putrefying animal tissues, 1920, **5**, 343
Haines, A. W. *See* Schlingman, A. S., 1925, **10**, 449
Hajna, A. A. *See* Perry, C. A., 1933, **26**, 419
— and Perry, C. A. A comparison of the Eijkman test with other tests for determining *Escherichia coli* in sewage, 1935, **30**, 479
— Decomposition of salts of organic acids by bacteria of the genus *Salmonella*, 1935, **29**, 253
Halbert, V. A. A study in the differentiation of *E. coli* and *Aerobacter aerogenes* by the bacteriostatic action of organic dyes, 1935, **30**, 653, ab.
Hale, J. F. *See* Prescott, S. C., 1931, **21**, 26, ab.
Hale, W. H. *See* Poe, C. F., 1927, **15**, 9, ab.
Hall, H. H., and James, L. H. The relationship of crystal surface contaminants to the biological quality of white sugar, 1935, **29**, 72, ab.
— and James, L. H. Yeast growth-promoting substances in white sugars, 1933, **25**, 67, ab.
— and Lothrop, R. E. The use of clarified honey in culture media, 1934, **27**, 349
— *See* James, L. H., 1933, **25**, 68, ab.
Hall, I. C. The isolation of pathogenic anaerobes from African poisoned arrows, 1927, **13**, 2, ab.
— Chemical criteria of anaerobiosis with special reference to methylene blue, 1921, **6**, 1
— A review of the development and application of physical and chemical principles in the cultivation of obligately anaerobic bacteria, 1929, **17**, 255
— Bacteriological findings in 186 human autopsies with special reference to the anaerobic bacilli, 1930, **19**, 28, ab.
— *Micrococcus niger*, a new pigment-forming anaerobic coccus recovered from urine in a case of general arteriosclerosis, 1930, **20**, 407
— Metabolic "mutation" and colonial dissociation in the genus *Bacterium*, 1935, **29**, 13, ab.
— The reduction of selenium compounds by sporulating anaerobes, 1926, **11**, 407

Hall, I. C. Some fallacious tendencies in bacteriologic taxonomy, 1927, **13,** 245
— Some fallacious tendencies in bacteriologic taxonomy, 1926, **11,** 75, ab.
— Testicular infusion agar—a sterilizable culture medium for the gonococcus, 1916, **1,** 343
— The principal postmortem findings in guinea pigs inoculated with pure cultures of pathogenic anaerobic bacilli, 1928, **15,** 17, ab.
— The titrimetric adjustment of the hydrogen ion concentration of bacteriologic culture media, 1923, **8,** 387
— Automatic water level for Arnold sterilizers, 1918, **3,** 7
— and Duffett, N. D. The identification of Von Hibler's "Bacillus VI" as *Bacillus carnis* (Klein), 1935, **29,** 269
— and Ellefson, L. J. The elimination of spurious presumptive tests for *B. coli* in water by the use of gentian violet, 1918, **3,** 329
— — A brief note on the use of gentian violet in presumptive tests for *B. coli* in milk with reference to sporulating anaerobes, 1918, **3,** 355
— Jungherr, E., and Rymer, M. R. The identity of *Bacillus sordellii* and *Clostridium oedematoides*, 1929, **17,** 15, ab.
— and Peterson, E. The effect of certain bacteria upon the toxin production of *Bacillus botulinus* in vitro, 1923, **8,** 319
— and Peterson, E. C. The detection of *Bacillus botulinus* and *Bacillus tetani* in soil samples by the constricted tube method, 1924, **9,** 201
— and Peterson, E. The discoloration of brain medium by anaerobic bacteria, 1924, **9,** 211
— and Scott, A. L. The serologic agglutination of *Bacillus sordellii* and *Clostridium oedematoides*, 1931, **22,** 375
— and Snyder, M. L. Isolation of an obligately anaerobic bacillus from the feces of newborn infants and from other human sources, and its probable identity with the "Köpfchenbakterien" of Escherich, Rodella's "Bacillus III" and *Bacillus paraputrificus* (Bienstock), 1934, **28,** 181
— and Stone, R. V. The diphtheroid bacillus of Preisz-Nocard from equine, bovine, and ovine abscesses. Ulcerative lymphangitis and caseous lymphadenitis, 1916, **1,** 553, ab.
— and Van Vranken, M. A comparative and taxonomic study of thirty-eight strains of *Bacillus tertius* (Henry), 1931, **21,** 2, ab.
— *See* Conn, H. J., 1930, **19,** 2, ab.
— *See* Conn, H. J., 1931, **21,** 1, ab.
— *See* Conn, H. J., 1932, **23,** 12, ab.
— *See* Conn, H. J., 1933, **25,** 20, ab.
— *See* Conn, H. J., 1935, **29,** 2, ab.
— *See* Duffett, N. D., 1935, **29,** 4, ab.
— *See* Conn, H. J., 1934, **27,** 22, ab.
Haller, D. A. Variations in the strength of positive Wasserman reactions in cases of untreated syphilis, 1916, **1,** 366, ab.
— *See* Walker, I. C., 1916, **1,** 262, ab.
Halton, T. C. Air diffusers tested at Milwaukee, (Wis.) sewage plant, 1916, **1,** 125, ab.
— The fundamental principles of the activated sludge process of sewage treatment, 1916, **1,** 250, ab.
Halvorson, H. O. The effect of chance on the mortality of experimentally infected animals, 1935, **30,** 330, ab.
— *See* Ziegler, N. R., 1935, **29,** 609
— *See* Bayliss, M., 1935, **29,** 9, ab.
— and Ziegler, N. R. Application of statistics to problems in bacteriology. I. A means of determining bacterial population by the dilution method, 1933, **25,** 101

Halvorson, H. O., and Ziegler, N. R. Application of statistics to problems in bacteriology. II. Consideration of the accuracy of dilution data obtained by using a single dilution, 1933, **26,** 331
— — Application of statistics to problems in bacteriology. III. A consideration of the accuracy of dilution data obtained by using several dilutions, 1933, **26,** 559
— *See* Green, R. G., 1926, **11,** 100, ab.
— *See* Green, R. G., 1928, **15,** 47, ab.
— *See* Starkey, R. L., 1927, **13,** 65, ab.
Hamblet, M. L., and Barnes, H. L. Chronic influenza in pulmonary tuberculosis, 1916, **1,** 699, ab.
Hamilton, H. W. Powdered litmus milk. A product of constant quality and color which can be made in any laboratory, 1921 **6,** 43
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— *See* Sanborn, J. R., 1929, **18,** 169
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— *See* Collins, M. A., 1934, **27,** 487
— *See* Harriman, L. A., 1930, **19,** 48, ab.
— *See* Hussong, R. V., 1930, **19,** 52, ab.
— *See* Hussong, R. V., 1928, **15,** 179
— *See* Hussong, R. V., 1930, **19,** 89
— *See* Hussong, R. V., 1930, **19,** 95
— *See* Plaisance, G. P., 1921, **6,** 431
— *See* Sarles, W. B., 1932, **23,** 301
— *See* Sarles, W. B., 1933, **25,** 62, ab.
— *See* Sarles, W. B., 1933, **25,** 461
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— *See* Damon, S. R., 1929, **18,** 343
Hampton, P. *See* Kilmer, F. B., 1916, **1,** 126, ab.
Hansen, P. A. The detection of ammonia production by bacteria in agar slants, 1930, **19,** 223
— An investigation of thermophiles in freshly drawn milk, 1930, **19,** 46, ab.
— *See* Hucker, G. J., 1934, **27,** 73, ab.
— *See* Margolena, L. A., 1934, **27,** 33, ab.
Hardenbergh, J. G. *See* Anderson, J. A., 1932, **23,** 59, ab.
Harder, E. C. The occurrence of bacteria in frozen soil, 1916, **1,** 555, ab.
Harding, H. A. Relation of bacteriology to city milk standards, 1916, **1,** 110, ab.
— Ward, A. R., and Harding, H. G. The bacterial flora of pasteurized milk, 1929, **17,** 35, ab.
— and Ward, A. R. Anomalous bacterial plate counts from milk, 1928, **15,** 24, ab.
— — Thermophilic bacteria and milk pasteurization, 1926, **11,** 95, ab.
— *See* Conn, H. J., 1918, **3,** 115
— *See* Conn, H. J., 1919, **4,** 107
— *See* Conn, H. J., 1920, **5,** 127
— *See* Conn., H. J., 1920, **5,** 315
— *See* Ward, A. R., 1926, **11,** 91, ab.
— *See* Ward, A. R., 1932, **23,** 59, ab.
Harding, H. G. *See* Tanner, F. W., 1926, **11,** 96, ab.
— *See* Harding, H. A., 1919, **17,** 35, ab.
— *See* Ward, A. R., 1932, **23,** 59, ab.
— *See* Wright, W. H., 1927, **13,** 10, ab.
Hare, R. *See* Lancefield, R. C., 1935, **29,** 41, ab.
Harkins, M. J. The bacillus of swine erysipelas causing a distinctive and severe form of erysipeloid among fish handlers, 1927, **13,** 32, ab.
Harmon, G. E. *See* Conn, H. J., 1921, **6,** 135
— *See* Conn, H. J., 1922, **7,** 519
Harms, A. The number of generations necessary for the development of the power of aerobic growth by *Bacterium abortus* (Bang), 1924, **9,** 273
Harriman, L. A., and Hammer, B. W. Variations in *Streptococcus lactis*, 1930, **19,** 48, ab.

Harris, N. MacL. Our society—in retrospect and prospect, 1926, **11,** 153
Harris, R. S., Bunker, J. W. M., and Milas, N. A. The germicidal activity of vapors from irradiated oils, 1932, **23,** 429
Harris, T. H. The incidence of syphilis among juvenile delinquents, 1916, **1,** 258, ab.
Harris, W. H., and Lanford, J. A. The agglutination reaction with sera derived from human cases of leprosy and from the experimental animal upon various members of the acid-fast group, 1916, **1,** 569, ab.
Harrison, F. C. Nitro-cultures and their commercial application, 1916, **1,** 456, ab.
— Our society, 1922, **7,** 149
— and Sadler, W. Discoloration of halibut, 1929, **17,** 29, ab.
— and Vanderleck, J. A study of some organisms which produce black fields in aesculin-bile-salt-media, 1916, **1,** 458, ab.
Harrison, J. A. Purification of the virus neutralizing fraction of the serum of poliomyelitis convalescents, 1935, **29,** 63, ab.
— *See* Gordon, F. B., 1935, **29,** 62, ab.
Harrison, R. W. *See* Falk, I. S., 1926, **11,** 85, ab.
— *See* Falk, I. S., 1926, **12,** 97
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Hartman, F. W. *See* Jackson, E., 1926, **11,** 102, ab.
Hartsell, S. E., and Rettger, L. F. A taxonomic study of "Clostridium putrificum" and its establishment as a definite entity—*Clostridium lentoputrescens*,, nov. spec., 1934, **27,** 497
— — A taxonomic study of "*Cl. putrificum*" and its establishment as a definite entity—*Cl. lentoputrescens nov. spec.*, 1934, **27,** 39, ab.
Hartz, H. J. *See* Leary, J. T., 1916, **1,** 579, ab.
Hartzell, T. B., and Henrici, A. T. The dental path: its importance as an avenue to infection, 1916, **1,** 363, ab.
Harvey, E. N., and Loomis, A. L. The destruction of luminous bacteria by high frequency sound waves, 1929, **17,** 373
Hastings, A. B. *See* Miller, C. P., Jr., 1932, **24,** 439
Hastings, E. G. Some questions of method in bacteriology, 1924, **9,** 95
— Beach, B. A., and Thompson, I. The sensitization of cattle to tuberculin by non-tubercle, acid-fast bacilli of bovine origin, 1930, **19,** 29, ab.
— and Mansfield, H. L. An acid-tolerant bacterium causing the rotting of silage, 1927, **13,** 65, ab.
— Mansfield, H., and Helz, G. Fermentation of citrates. Fermentation of citric acid in various culture media, 1926, **11,** 77, ab.
— and McCoy, E. The use of reduced iron in the cultivation of anaerobic bacteria, 1932, **23,** 54, ab.
— and Morrey, C. B. Early instructors in bacteriology in the United States, 1918, **3,** 307
— and Sagen, H. E. The effect of physical environment on the cultural character of *Bacillus mycoides*, 1933, **25,** 39, ab.
— *See* McCarter, J., 1933, **25,** 51, ab.
— *See* McCarter, J., 1935, **29,** 503
— *See* McCarter, J., 1935, **29,** 15, ab.
— *See* McCarter, J. R., 1934, **27,** 41, ab.
— *See* Thornton, H. R., 1927, **13,** 62, ab.
— *See* Thornton, H. R., 1928, **15,** 26, ab.
— *See* Thornton, H. R., 1929, **18,** 293
— *See* Thornton, H. R., 1929, **18,** 319
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— *See* Rosenau, M. J., 1916, **1,** 465, ab.
Hawk, P. B. *See* Leary, J. T., 1916, **1,** 579, ab.
Haywood, E. T. *See* Winslow, C.-E. A., 1930, **19,** 8, ab.
— *See* Winslow, C.-E. A., 1931, **22,** 49
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Heacock, E. *See* Leonard, G. F., 1928, **15,** 15, ab.
Healy, D. J. The exudate from nutrient agar slants—the so-called water of condensation, 1926, **12,** 179
— and Gott, E. J. A filterable organism isolated from the tissues of cholera hogs, 1916, **1,** 357, ab.
Heath, B. M. *See* Hadley, P., 1919, **4,** 65
Heeks, W. G., and Famulener, L. W. An analysis of six thousand consecutive routine blood cultures, 1929, **17,** 48, ab.
Heeren, R. *See* Perkins, R. G., 1929, **17,** 49, ab.
Hegarty, C. P., and Rahn, O. Growth retardation by freshly distilled water, 1934, **28,** 21
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— *See* Jacobs, W. A., 1916, **1,** 460, ab.
— *See* Jacobs, W. A., 1916, **1,** 460, ab.
Heifetz, A. *See* Horwood, M. P., 1934, **28,** 199
— *See* Horwood, M. P., 1934, **27,** 57, ab.
Heinemann, P. G. The morphology of a strain of *B. diphtheriae*, 1917, **2,** 361
— and Ecker, E. E. A study of the Boas-Oppler bacillus, 1916, **1,** 435
— and Hixson, C. R. Bacteria concerned in the ripening of corn silage, 1921, **6,** 45
Heinley, B. A. Sanitary features of Los Angeles aqueduct, 1916, **1,** 250, ab.
Heiser, V. G. Recent developments in the treatment of leprosy, 1916, **1,** 252, ab.
Heist, G. D. *See* Kolmer, J. A., 1916 **1,** 369, ab.
— *See* Kolmer, J. A., 1916, **1,** 370, ab.
Hektoen, L. Advances in the study of streptococci, 1930, **19,** 57
— Vaccine treatment, 1916, **1,** 569, ab.
Heller, G. *See* Hazen, E. L., 1932, **23,** 195
Heller, H. H. Principles concerning the isolation of anaerobes. Studies in pathogenic anaerobes. II, 1921, **6,** 445
— Suggestions concerning a rational basis for the classification of the anaerobic bacteria. Studies in pathogenic anaerobes. IV. I. Preliminary paper, 1921, **6,** 521
— Certain genera of the Clostridiaceae. Studies in pathogenic anaerobes. V., 1922, **7,** 1
— The apparent cause of an infectious enteritis of very young lambs, 1933, **25,** 91, ab.
Hellinger, E. *See* Dorner, W., 1935, **29,** 16, ab.
Helz, G. *See* Hastings, E. G., 1926, **11,** 77, ab.
Henderson, H. J. *See* Aronson, J. D., 1934, **27,** 101, ab.
Hendrickson, A. A., Baldwin, I. L., and Riker, A. J. Studies on certain physiological characters of *Phytomonas tumefaciens*, *Phytomonas rhizogenes* and *Bacillus radiobacter*. Part II., 1934, **28,** 597
Hendry, J. L. *See* Kirkbride, M. B., 1928, **15,** 36, ab.
Henrici, A. T. Studies of freshwater bacteria. I. A direct microscopic technique, 1933, **25,** 277
— and Johnson, D. Stalked bacteria, a new order of *Schizomycetes*, 1935, **29,** 3, ab.
— and Johnson, D. E. Studies of freshwater bacteria. II. Stalked bacteria, a new order of *Schizomycetes*, 1935, **30,** 61

Henrici, A. T. *See* Hartzell, T. B., 1916, **1,** 363, ab.
— *See* Punkari, L., 1933, **26,** 125
— *See* Punkari, L., 1935, **29,** 259
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Herrington, B. L. A note regarding the lag period, 1934, **28,** 177
— and Knaysi, G. A simple method of growing anaerobes in petri dish cultures, 1930, **19,** 101
— *See* Stark, C. N., 1931, **21,** 13, ab.
Herrmann, L. G. An improved method for the cultivation of anaerobic microörganisms, 1932, **23,** 331
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— *See* Huston, R. C., 1934, **27,** 108, ab.
Hess, E. The bactericidal action of smoke (as used in the smoke-curing of fish), 1928, **15,** 33, ab.
Hesseltine, H. C., and Hopkins, E. W. A study of the fungicidal effect of various chemicals on yeast-like organisms (vulvo-vaginal) and certain higher fungi, 1935, **29,** 8, ab.
Heukelekian, H. *See* Gehm, H. W., 1935, **29,** 28, ab.
— The fate of *B. coli* and *B. aerogenes* in sewage purification, 1927, **14,** 55
— and Rudolfs, W. Effects of temperature on bacterial numbers in digesting sewage sludge, 1929, **17,** 247
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Higbie, E., and Howitt, B. The behavior of the virus of equine encephalomyelitis on the chorio-allantoic membrane of the developing chick, 1935, **29,** 399
Higby, W. M. *See* McCoy, E., 1928, **15,** 8, ab.
Higgins, F. M. *See* Tanner, F. W., 1926, **11,** 45
Hill, G. A. *Clostridium multifermentans* in chocolate cream candies, 1925, **10,** 413
Hill, H. W. Frank Fairchild Wesbrook, 1919, **4,** 71
Hill, J. H., and Seidman, L. R. Bacterial invasions of the blood stream in urology, 1934, **27,** 87, ab.
— Seidman, L. R., Stadnichenko, A. M. S., and Ellis, M. G. A preliminary study of two hundred Gram negative bacilli isolated from cases of genito-urinary infection, 1927, **13,** 6, ab.
— — — — A study of two hundred cultures of Gram negative bacilli isolated from cases of genito-urinary infection, 1929, **17,** 205
— and White, E. C. The use of sodium chloride in culture media for the separation of certain Gram-positive cocci from Gram-negative bacilli, 1929, **17,** 47, ab.
— and White, E. C. Sodium chloride media for the separation of certain Gram-positive cocci from Gram-negative bacilli, 1929, **18,** 43
— — A note on the variability of the germicidal action of the normal human skin, 1932, **23,** 107, ab.
Hill, S. E., and Shoup, C. S. Observations on luminous bacteria, 1929, **18,** 95
Hilliard, C. M. Pasteurization as a public health measure, 1916, **1,** 566, ab.
— and Davis, M. A. The germicidal action of freezing temperatures upon bacteria, 1918, **3,** 423
Hills, T. L. The relation of protozoa to certain groups of soil bacteria, 1916, **1,** 99, ab.; 423
Himmelberger, L. R. *See* Graham, R., 1916, **1,** 115, ab.

Himmelberger, L. R. *See* Graham, R., 1916, **1**, 358, ab.
Hinkleman, A. J. Coagulation and sterilization of Loeffler's blood serum media under steam pressure, 1923, **8**, 315
Hinman, J. J. A preliminary report upon purification of swimming pools at the state university of Iowa, 1916, **1**, 680, ab.
— *See* Albert, H., 1916, **1**, 119, ab.
Hinsie, L. E. *See* Kopeloff, L. M., 1935, **30**, 49
— *See* Kopeloff, L. M., 1935, **29**, 33, ab.
Hirschfelder, J. O. A simple method of quantitative determination of complement fixation, 1916, **1**, 572, ab.
Hitchcock, C. H. *See* Joffe, E. W., 1933, **25**, 24, ab.
Hitchens, A. P. Agar coagulating bacteria, 1933, **25**, 39, ab.
— A practical method for the identification of guinea-pigs under treatment, 1916, **1**, 541
Hitchner, E. R. *See* Lewis, K. H., 1935, **29**, 22, ab.
Hitchner, E. R. The isolation of a bacteriolytic principle from the root nodules of red clover, 1930, **19**, 191
— Isolation of a bacteriolytic principle from the root nodules of red clover, 1929, **17**, 19, ab.
— Some physiological characteristics of the propionic-acid bacteria, 1934, **28**, 473
— A cultural study of the propionic-acid bacteria, 1932, **23**, 40, ab.
Hixson, C. R. *See* Heinemann, P. G., 1921, **6**, 45
Hixon, R. M. *See* Breden, C. R., 1930, **19**, 41, ab.
— *See* Patrick, R., 1930, **19**, 16, ab.
— *See* Rayburn, C. H., 1930, **19**, 7, ab.
Hobby, G. L. *See* Stone, F. M., 1934, **27**, 403
Hofer, A. W. Moisture control in studies of symbiosis between Rhizobia and legume plants, 1935, **29**, 76, ab.
Hofer, A. W. Veal infusion as a medium for purity tests of cultures of Rhizobia, 1933, **25**, 56, ab.
— and Baldwin, I. L. The growth of Rhizobia upon rich nitrogenous media, 1932, **23**, 65, ab.
— *See* Baldwin, I. L., 1932, **23**, 66, ab.
Hoffman, W. H., Maclure, W. B., and Sauer, L. W. Simultaneous injections of streptococci and dahlia in the guinea-pig, 1916, **1**, 583, ab.
Hoffstadt, R. E., and Almaden, P. Antibody formation in animals treated intracutaneously and subcutaneously with killed cultures of *Staphylococcus aureus*, 1932, **23**, 105, ab.
— and Johnson, S. J. Changes in intestinal flora of rats on a calcium deficient diet, 1926, **11**, 100, ab.
— and Martin, C. E. Immunological studies of typhoid vaccination by mouth. 3. Agglutinins and complement fixation reactions formed in persons treated with typhoid bacterin in capsule, 1929, **17**, 42, ab.
— and Thompson, R. L. Immunological studies of typhoid vaccination by mouth. 1. Agglutinins formed in persons treated orally with triple typhoid bacterin, 1929, **17**, 41, ab.
— — Immunological studies of typhoid vaccination by mouth. 2. Complement fixations and precipitin reactions in persons treated orally with bile and triple typhoid bacterin, 1929, **17**, 41, ab.
— and Youmans, G. P. Dissociation of *Staphylococcus aureus* and its relation to infection and immunity, 1932, **23**, 34, ab.
— — The genetic significance of the dissociants of *Staphylococcus aureus*, 1934, **27**, 551
— Youmans, G. P., and Clark, W. Antigenic structure of *Staphylococcus aureus* and its variants, 1934, **27**, 97, ab.

Hoggan, I. A. Studies on aphid transmission of plant viruses, 1930, **19,** 21, ab.
Hoki, R. *See* Inada, R., 1916, **1,** 379, ab.
Holford, F. E. Placental transmission of foreign protein, 1926, **11,** 106, ab.
Hollaender, A. *See* Duggar, B. M., 1934, **27,** 219
— *See* Duggar, B. M., 1934, **27,** 241
Holden, M. *See* Gay, F. P., 1931, **22,** 295
Hollon, H. C. *See* Kendrick, P., 1931, **21,** 49, ab.
Holly, L. E. *See* Connell, J. T., 1921, **6,** 89
— *See* Warden, C. C., 1921, **6,** 103
Holm, A. *See* Leonard, G. F., 1933, **25,** 83, ab.
— *See* Leonard, G. F., 1934, **27,** 98, ab.
— *See* Leonard, G. F., 1935, **29,** 45, ab.
Holm, G. E., and Sherman, J. M. Salt effects in bacterial growth. I. Preliminary paper, 1921, **6,** 511
— *See* Albus, W. R., 1926, **11,** 83, ab.
— *See* Albus, W. R., 1926, **12,** 13
— *See* Sherman, J. M., 1922, **7,** 465
— *See* Sherman, J. M., 1922, **7,** 583
Holman, W. L. Device for tubing cooked meat medium, 1923, **8,** 47
— The value of a cooked meat medium for routine and special bacteriology, 1919, **4,** 149
— and Gonzales, F. L. A test for indol based on the oxalic acid reaction of Gnezda, 1923, **8,** 577
Holmes, W. H. Remarks on *B. Welchii* in the stools of pellagrins, 1916, **1,** 260, ab.
Holst, E. G. *See* Wright, W. H., 1930, **19,** 39, ab.
Holt-Harris, J. E., and Teague, O. A new culture medium for the isolation of *Bacillus typhosus* from stools, 1916, **1,** 693, ab.
Holtman, D. F. The microbial content of soft wheat flour, 1935, **30,** 359
Hooker, S. B. Preliminary studies of the antigenic properties of different strains of *Bacillus typhosus*, 1916, **1,** 685, ab.
— and Boyd, W. C. The influence of the molecular weight of antigen on the proportion of antibody to antigen in precipitates, 1934, **27,** 91, ab.
— — Two antigens of high molecular weight: Hemocyanins of *Limulus polyphemus* and *Busycon* (Fulgur) *caniculatum*, 1935, **29,** 57, ab.
— and Follensby, E. M. Some toxins of scarlatinal streptococci, 1932, **23,** 85, ab.
Hoover, S. R. *See* Allison, F. E., 1934, **27,** 561
Hopfield, J. H. *See* Meacham, M. R., 1920, **5,** 305
— *See* Meacham, M. R., 1920, **5,** 309
— *See* Meacham, M. R., 1920, **5,** 491
Hopkins, B. S. *See* Munn, L. E., 1925, **10,** 79
Hopkins, E. W. *See* Hesseltine, H. C., 1935, **29,** 8, ab.
— Fred, E. B., and Peterson, W. H. Studies on the composition of the cells and gum of the root nodule bacteria, 1928, **15,** 22, ab.
— and Peterson, W. H. The nature of the fat-like constituents of the alfalfa root nodule bacteria, 1930, **19,** 9, ab.
— Peterson, W. H., and Fred, E. B. The gum produced by the root nodule bacteria of the leguminosae, 1929, **17,** 22, ab.
Hopkins, J. G. *See* Zinsser, H., 1916, **1,** 378, ab.
— *See* Zinsser, H., 1916, **1,** 378, ab.
— *See* Zinsser, H., 1916, **1,** 379, ab.
— *See* Zinsser, H., 1916, **1,** 489
— *See* Zinsser, H., 1916, **1,** 692, ab.
Horgan, E. S. The value of serological tests for the identification of *Pseudomonas malvacearum*, 1931, **22,** 287
Horner, C. K. *See* Burk, D., 1934, **27,** 325

Horning, E. S. *See* Schmelkes, F. C., 1934, **27**, 36, ab.
— *See* Schmelkes, F. C., 1935, **29**, 323
Horton, G. D. Apparent recovery of a hen infected with bacillary white diarrhea, 1916, **1**, 625
Horwood, M. P. The bacteriology of household dusts, 1931, **21**, 14, ab.
— Gould, B. S., and Shwachman, H. The numbers and types of bacteria surviving in household dusts after storage in sealed containers for two years, 1934, **27**, 66, ab.
— and Heifetz, A. A comparative study of certain presumptive test media, 1934, **27**, 57, ab.
— — A comparative study of certain media used in presumptive tests for *Bact. coli*, 1934, **28**, 199
Hotchkiss, M. Presence of fusiform bacilli and spirochetes in the mouths of a group of young adults, 1931, **21**, 44, ab.
— Studies on salt action. VI. The stimulating and inhibitive effect of certain cations upon bacterial growth, 1923, **8**, 141
— Studies on the biology of sewage disposal. A survey of the bacteriological flora of a sewage treatment plant, 1924, **9**, 437
— Evidence on the specificity of hexosidases. A comparison of the activity of *Escherichia coli* and *Escherichia communior*, 1935, **29**, 391
Hotson, J. W. Observations on fire blight in the Yakima Valley, Washington, 1916, **1**, 705, ab.
House, G. O. *See* Huff, N. L., 1916, **1**, 458, ab.
Howe, P. E. *See* Brown, J. H., 1922, **7**, 511
Howitt, B. *See* Higbie, E., 1935, **29**, 399
— Poliomyelitis. In vitro neutralization tests using normal adult and convalescent human serums, 1935, **29**, 61, ab.
— An immunological study in laboratory animals of thirteen strains of equine encephalomyelitic virus, 1935, **29**, 61, ab.
Hoyt, A. Studies upon the growth phases of *Clostridium septicum*, 1935, **30**, 243
Hoyt, R. N. *See* Megrail, E., 1929, **17**, 54, ab.
Hsu, P. H. *See* Norton, J. F., 1916, **1**, 459, ab.
Hubert, E. E. *See* Weir, J. R., 1916, **1**, 132, ab.
Hucker, G. J. Beta hemolytic streptococci associated with septic sore throat epidemics, 1935, **30**, 445, ab. (no abstract)
— Agglutination as a means of differentiating certain types of Streptococcus and Leuconostoc, 1932, **23**, 83, ab.
— Certain biochemical reactions produced by the streptococci, 1929, **17**, 6, ab.
— Relationships of the various acid-proteolytic cocci, 1929, **17**, 33, ab.
— A study of the cocci resisting pasteurization temperatures, 1928, **15**, 28, ab.
— A new modification and application of the Gram stain, 1921, **6**, 395
— A review of the bacteriology of the normal and infected udder, 1933, **25**, 58, ab.
— and Hansen, P. A. The bacteriology of chronic mastitis, 1934, **27**, 73, ab.
— and Pederson, C. S. The genus Leuconostoc, 1931, **21**, 3, ab.
— and Wall, W. A. The use of agar slants in detecting ammonia production and its relation to the reduction of nitrates, 1922, **7**, 515
— *See* Bowers, C. S., 1934, **27**, 71, ab.
— *See* Conn, H. J., 1920, **5**, 433
— *See* Conn, H. J., 1922, **7**, 519
— *See* Conn, H. J., 1925, **10**, 315

Huddleson, I. F. Is *Bact. abortus* (Bang) pathogenic for humans?, 1926, **11**, 108, ab.
— The pathogenicity of the species of the genus Brucella for monkeys, 1929, **17**, 58, ab.
— Copper sulphate medium for the isolation of *Br. abortus* (Bang) from milk, 1931, **21**, 53, ab.
— and Abell, E. A biochemical method of differentiating *Brucella abortus* from *Brucella melitensis-paramelitensis*, 1927, **13**, 13, ab.
— and Hershey, A. D. The biological activity of a few chemical constituents of Brucella cells, 1935, **29**, 58, ab.
— *See* Huston, R. C., 1934, **27**, 108, ab.
Hudson, N. P. *See* Gordon, F. B., 1935, **29**, 62, ab.
— *See* Lennette, E. H., 1935, **29**, 63, ab.
Huff, N. L., and House, G. O. Copper sulphate treatment of St. Paul, Minnesota water supplies, 1916, **1**, 458, ab.
Hughes, T. P. Growth requirement of staphylococci, 1932, **23**, 437
— and Theiler, M. Studies of circulating virus and antibodies in yellow fever infection in animals, 1934, **27**, 76, ab.
— A partial purification of yellow fever virus through absorption and elution, 1934, **28**, 401
Hull, T. G., and Rettger, L. The influence of milk and carbohydrate feeding on the character of the intestinal flora. IV. Diet versus bacterial implantation, 1917, **2**, 47
— and Rettger, L. F. Further studies on the influence of a lactose-containing diet upon the intestinal flora, 1916, **1**, 120, ab.
— *See* Rettger, L. F., 1916, **1**, 120, ab.; 455, ab.
Humfeld, H. *See* Smith, N. R., 1927, **17**, 24, ab.
— *See* Smith, N. R., 1930, **19**, 43, ab.
— *See* Thom, C., 1932, **23**, 79, ab.
Humphreys, E. M. *See* Branham, S. E., 1927, **13**, 46, ab.
— *See* Gilbert, R., 1926, **11**, 141
Hunt, G. A. The gaseous metabolism of *L. pentoaceticus* with reference to several representative members of the Lactobacillus group, 1933, **26**, 341
— and Rettger, L. F. A comparative study of members of the Lactobacillus genus, with special emphasis on Lactobacilli of soil and grain, 1930, **20**, 61
— *See* Gee, A. H., 1928, **16**, 327
Hunt, H. F. Postmortem bacteriology, 1935, **30**, 654
Hunter, A. C. The sources and characteristics of the bacteria in decomposing salmon, 1922, **7**, 85
— Bacterial decomposition of salmon, 1920, **5**, 353
— Bacterial groups in decomposing salmon, 1920, **5**, 543
Hunter, C. A. Consideration of methods in the teaching of general bacteriology, 1927, **13**, 69, ab.
— Colonial variation of *Escherichia coli* on solid media with especial reference to the production of rough colonies, 1931, **21**, 13, ab.
Hunter, O. The use of the short answer type of questions in bacteriology examinations, 1927, **13**, 70, ab.
Hunter, O. W. The colon-aerogenes group from silage, 1917, **2**, 635
— A lactose fermenting yeast producing foamy cream, 1918, **3**, 293
— and Bushnell, L. D. The importance of *Bacterium bulgaricus* groups in ensilage, 1916, **1**, 372, ab.
Huntington, E. *See* Walker, H. H., 1934, **27**, 22, ab.
— *See* Walker, H. H., 1934, **27**, 303
Huntington, W. H. Case of mastoiditis complicated by purulent cerebrospinal meningitis; operation and recovery, 1916, **1**, 694, ab.

Huntoon, F. M. Data bearing on the question of the size of the antibody molecule and the amount of antibody substance present in an immune serum, 1926, **11**, 105, ab.
— The characteristics of a probable new member of the Neisserieae, 1934, **27**, 108, ab.
— A simple method for staining the capsules of bacteria, 1917, **2**, 241
— Funk, E. H., and White, H. Biochemical studies of bacterial derivatives. XV. Skin reactions in man: a comparison of tuberculin O. T., human tubercle bacillus protein MA 100 and Timothy bacillus protein MA 100, 1931, **21**, 57, ab.
Hurley, T. B. An unique lesion of the heart in systemic blastomycosis, 1916, **1**, 376, ab.
Hurwitz, S. H., Meyer, K. F., and Ostenberg, Z. On a colorimetric method of adjusting bacteriological culture media to any optimum hydrogen ion concentration, 1916, **1**, 129, ab.
Husk, C. E. *See* Olitsky, P. K., 1916, **1**, 580, ab.
Hussong, R. V. A large-celled dissociative form of *Escherichia coli* and its relation to the so-called Pettenkofer bodies, 1933, **25**, 537
— and Hammer, B. W. Anaerobic bacteria in dairy products. I. Numbers of spores of anaerobic bacteria in milk and cream, 1930, **19**, 89
— — Anaerobic bacteria in dairy products. II. Relationship of anaerobic bacteria to certain abnormal fermentations, 1930, **19**, 95
— — Lactic acid production of some of the anaerobes, 1930, **19**, 52, ab.
— — A thermophile coagulating milk under practical conditions, 1928, **15**, 179
Huston, R. C., Huddleson, I. F., and Hershey, A. D. The chemistry of the cellular constituents of the genus Brucella, 1934, **27**, 108, ab.
Hyman, A. Gonorrhea and its complications, 1916, **1**, 689, ab.
— The treatment of genito-urinary tuberculosis with Rosenbach's tuberculin, 1916, **1**, 580, ab.

I

Ido, Y. *See* Inada, R., 1916, **1**, 379, ab.
Inada, R., Ido, Y., Hoki, R., Kaneko, R., and Ito, H. The etiology, mode of infection, and specific therapy of Weil's disease (*Spirochaetosis icterohaemorrhagica*), 1916, **1**, 379, ab.
Ingraham, M. A. The carotenoid pigments of several bacterial species, 1935, **29**, 74, ab.
— The bacteriostatic action of gentian violet and its dependence on the oxidation-reduction potential, 1933, **26**, 573
— and Baumann, C. A. The synthesis of carotene by bacteria, 1934, **27**, 25, ab.
— — The relation of microörganisms to carotenoids and vitamin A. I. The occurrence of carotene in bacteria, 1934, **28**, 31
— and Fred, E. B. The relation between the bacteriostatic action of gentian violet and the oxidation-reduction potential of the medium, 1933, **25**, 23, ab.
Irish, J. H. *See* Cruess, W. V., 1932, **23**, 163
Irons, E. E., and Brown, E. V. L. The etiology of iritis, 1916, **1**, 580, ab.
— Brown, E. V. L., and Nadler, W. H. The localization of streptococci in the eye, 1916, **1**, 699, ab.
Irons, V. *See* Mackenzie, G. M., 1935, **29**, 583
Irving, W. W. Bacteriology in conjunction with homeopathic prescribing, 1916, **1**, 583, ab.

Irwin, M. R. The inheritance of resistance to the Danysz bacillus in the rat, 1928, **15,** 45, ab.
— Heredity as a factor in the resistance of rats to *Salmonella enteritidis*, 1933, **25,** 93, ab.
Isaacs, M. L. Factors which influence tests of bacterial survival. I. The effect of varying periods of incubation of the survival test culture, 1930, **20,** 161
— Factors which influence tests of bacterial survival. II. The effect of the pH of the survival test culture on results obtained with a ssprophytic tubercle bacillus, 1930, **20,** 175
Ishii, O. Studies upon agglutination in the colon-typhoid group of bacilli, 1922, **7,** 39
— A study of spontaneous agglutination in the colon-typhoid group of bacilli, 1922, **7,** 71
— The fate of bacteria of the colon-typhoid group on carbohydrate media, 1920, **5,** 437
Izard, M. S. The value of lactic acid in the preservation of mayonnaise dressing and other products, 1927, **13,** 57, ab.
Itano, A. Physiological study of *Azotobacter chroococcum*. I. Influence of vitamine B (?) and nucleic acid on azotobacter, 1923, **8,** 483
— Biological investigation of peat, 1925, **10,** 87
Itano, A. *See* Yamagata, U., 1923, **8,** 521
Ito, H. *See* Inda, R., 1916, **1,** 379, ab.
Ito, T., and Matsuzaki, H. The pure cultivation of *Spirochaeta icterohaemorrhagiae* (Inada), 1916, **1,** 464, ab.

J

Jackson, E., and Hartman, F. W. Experimental *Bacillus pyocaneus* Keratitis, 1926, **11,** 102, ab.
Jackson, E. G. A pleomorphic anaerobe: the etiological organism in a fatal meningitis, 1928, **15,** 48, ab.
— *Shigella gintotense* (Castellani): its occurrence in cultures from various sources, 1934, **27,** 86, ab.
Jacobs, W. A. The bactericidal properties of the quarternary salts of hexamethylenetetramine. I. The problem of the chemotherapy of experimental bacterial infections, 1916, **1,** 460, ab.
— Heidelberger, M., and Amoss, H. L. The bactericidal properties of the quartenary salts of hexamethylenetetramine. II. The relation between constitution and bactericidal action in the substituted benzylhexamethylenetetraminium salts, 1916, **1,** 460, ab.
— Heidelberger, M., and Bull, C. G. The bactericidal properties of the quarternary salts of hexamethylenetetramine. III. The relation between constitution and bactericidal action in the quarternary salts obtained from halogenacetyl compounds, 1916, **1,** 460, ab.
Jacobson, M. A. Observations on the epidemiology of lobar pneumonia, 1927, **13,** 31, ab.
— and Falk, I. S. Studies on respiratory diseases. XXIX. The influence of anti-serum and of animal passage upon the virulence and electrophoresis of pneumococci, 1927, **13,** 191
— *See* Falk, L. S., 1926, **11,** 83, ab.
— *See* Falk, I. S., 1926, **11,** 85, ab.
Jahn, T. L. *See* Richards, O. W., 1933, **26,** 385
James, L. H. Does freezing kill *Cl. botulinum* spores?, 1932, **23,** 47, ab.
— Growth of *Cl. botulinum* in "waterless-processed" string beans, 1929, **17,** 32, ab.
— Frozen foods from the health standpoint, 1933, **25,** 74, ab.

James, L. H. A sugar-tolerant member of the colon-aerogenes group, 1930, **19,** 145
— Bacteria prevalent in sweetcorn canning, 1927, **13,** 409
— Distribution of thermophilic spoilage bacteria, 1928, **15,** 32, ab.
— and Hall, H. H. Fermentation flavors in syrups, 1933, **25,** 68, ab.
— Rettger, L. F., and Thom, C. Microbial thermogenesis. II. Heat production in moist organic materials with special reference to the part played by microörganisms, 1928, **15,** 117
— and Swenson, T. L. A study of pinspot molding on shell eggs in cold storage, 1930, **19,** 55 ab.
— *See* Almy, L. H., 1926, **12,** 319
— *See* Hall, H. H., 1933, **25,** 67, ab.
— *See* Stuart, L. S., 1930, **19,** 53, ab.
— *See* Swenson, T. L., 1935, **29,** 10, ab.
— *See* Straka, R. P., 1935, **29,** 313, ab.
— *See* Phillips, M., 1935, **29,** 83, ab.
— *See* Hall, H. H., 1935, **29,** 72, ab.
— and Beavens, E. A. Electro-silver preservation of fruit juices, 1935, **29,** 73, ab.
James, W. E. A basal medium for the primary isolation of pathogens. A quickly prepared medium including accessory growth factors from fish roe or quahdugs, 1934, **28,** 323
Jamieson, W. A. *See* Powell, H. M., 1935, **29,** 48, ab.
— *See* Powell, H. M., 1929, **17,** 49, ab.
— *See* Powell, H. M., 1931, **21,** 55, ab.
Jay, P. An anaerobe isolated from dental caries, 1927, **14,** 385
Jennings, F. B., Jr. A new method for suspending and counting living tubercle bacilli, 1926, **11,** 104, ab.
Jennison, M. W. Some quantitative relationships in bacterial population cycles, 1935, **30,** 603
— A bacteriological incubator for uniform temperatures with accurate control, 1931, **21,** 24, ab.
— A note on the Richards-Jahn photoelectric nephelometer, 1934, **28,** 107
— and Bunker, J. W. M. The effect of temperature upon the rate of growth of *E. coli* in broth, 1932, **23,** 52, ab.
— and Bunker, J. W. M. Some quantitative relationships in bacterial population cycles, 1935, **29,** 19, ab.
— *See* Conn, H. J., 1935, **29,** 2, ab.
Jensen, L. B., and Falk, I. S. Electrophoresis of diphtheria bacilli. I. Some relations between the virulence, toxigenicity, and electrophoretic mobilities of diphtheria bacilli, 1928, **15,** 367
— Falk, I. S., Tonney, F. O., and White, J. L. Electrophoresis of diphtheria bacilli. II. Microelectrophoresis and the differentiation of virulent and non-virulent diphtheria bacilli, 1928, **15,** 413
— *See* Falk, I. S., 1928, **15,** 38, ab.
— *See* Falk, I. S., 1928, **15,** 421
Jensen, O. G. *See* Lisse, M. W., 1931, **21,** 383
Joffe, E. W., Hitchcock, C. H., and Mudd, S. Surface properties of intestinal bacteria before and after serum sensitization, 1933, **25,** 24, ab.
Joffe, E. W. *See* Smith, D. E., 1934, **28,** 127
Joffe, J. S. *See* Waksman, S. A., 1920, **5,** 31
— *See* Waksman, S. A., 1922, **7,** 239
Johanson, E., and Broadhurst, J. Yeast as a substitute for meat extract in culture media, 1926, **11,** 87, ab.
Johns, C. K. *See* Lochhead, A. G., 1933, **25,** 62, ab.
Johns, F. M. A study of *Endameba buccalis* in alveolodental pyorrhoea, 1916, **1,** 564, ab.
Johnson, A. G. *See* Jones, L. R., 1916, **1,** 705, ab.
Johnson, B. R. Coli-like organisms of the soil, 1916, **1,** 96, ab.

Johnson, B. R., and Levine, M. Characteristics of coli-like microorganisms from the soil, 1917, **2,** 379
Johnson, D. *See* Henrici, A. T., 1935, **29,** 3, ab.
Johnson, D. E. *See* Henrici, A. T., 1935, **30,** 61
— Some observations on chitin-destroying bacteria, 1932, **24,** 335
Johnson, H. W. A simple micropipette holder, 1923, **8,** 573
— *See* Brown, P. E., 1916, **1,** 553, ab.
Johnson, M. J., and Peterson, W. H. The proteinase and amino-polypeptidase of aspergillus parasiticus, 1935, **29,** 90, ab.
— *See* Peterson, W. H., 1933, **25,** 69, ab.
Johnson, S. J. *See* Hoffstadt, R. E., 1926, **11,** 100, ab.
Johnson, W. T., Jr. *See* Ayers, S. H., 1924, **9,** 111
— *See* Ayers, S. H., 1924, **9,** 279
— *See* Ayers, S. H., 1924, **9,** 285
Johnston, W. W., and Wynne, A. M. The amylase of *Clostridium acetobutylicum*, 1935, **30,** 491
Jones, D. H. The soil plaque azotobacter test for soil deficiency, 1932, **23,** 77, ab.
— Further studies on the growth cycle of azotobacter, 1920, **5,** 325
— The viability of *Rhizobium legumenosum* Frank and *Rhizobium radicicolum* Beijerinck, 1927, **13,** 55, ab.
Jones, F. S., and Orcutt, M. The prozone phenomenon in specific bacterial agglutination, 1934, **27,** 91, ab.
— — and Little, R. B. Atypical (slow) lactose fermenting *B. coli*, 1932, **23,** 267
— *See* Rous, P., 1916, **1,** 256, ab.
— *See* Rous, P., 1916, **1,** 466, ab.
Jones, H. M. A method of anaerobic plating permitting observation of growth, 1916, **1,** 339
Jones, H. N., and Wise, L. E. Cellobiose as an aid in the differentiation of members of the colon-aerogenes group of bacteria, 1926, **11,** 359
Jones, H. P. *See* Downs, C. M., 1928, **15,** 41, ab.
Jones, L. R. Studies on variability of *C. diphtheria*, 1933, **25,** 97, ab.
— Erwin Frink Smith. 1854–1927, 1928, **15,** 1
— Johnson, A. G., and Reading, C. S. Bacteriological blights of barley and certain other cereals, 1916, **1,** 705, ab.
Jones, W. R. The Wassermann reaction in two hundred and fifty-one tuberculous dispensary cases, 1916, **1,** 682, ab.
Jordan, E. F. *See* Smith, G. H., 1930, **20,** 25
— *See* Smith, G. H., 1931, **21,** 75
Jordan, E. O., Caldwell, M. E., and Reiter, D. Bacterial motility, 1934, **27,** 165
— Crawford, R. R., and McBroom, J. The Morgan bacillus, 1935, **29,** 131
Jordan, G. *See* Albert, H., 1916, **1,** 119, ab.
Jourdonais, L. F. *See* Nungester, W. J., 1935, **29,** 34, ab.
Jost, E. L. *See* Mellon, R. R., 1929, **17,** 56, ab.
Julianelle, L. A. A biological classification of *Klebsiella ozenae*, 1935, **30,** 535
Jungeblut, C. W. Studies on the specificity of the inactivation of poliomyelitis virus by serum, 1934, **27,** 81, ab.
Jungherr, E. *See* Hall, I. C., 1929, **17,** 15, ab

K

Kabat, E. A. *See* Coulter, C. B., 1935, **29,** 54, ab.
Kagan, J. R. *See* Aycock, W. L., 1927, **13,** 28, ab.
Kahn, A. Continuous transfusion; the production of immunity, 1916, **1,** 366, ab.

Kahn, J. V. *See* Eisendrath, D. N., 1916, **1**, 258, ab.
Kahn, M. C. Observations on the life cycle of acid-fast bacteria, 1932, **23**, 20, ab.
— Hydrogen sulphide production by anaerobic spore-bearing bacteria, 1925, **10**, 439
— and Schwarzkopf, H. Single cell dissociation of acid fast bacteria. Mycobacterium of avian tuberculosis; mycobacterium of "rat leprosy," 1933, **25**, 157
— *See* Quick, A. J., 1929, **18**, 133
— *See* Torrey, J. C., 1930, **20**, 85
Kahn, M. H. Newer laboratory methods for the early diagnosis of pulmonary tuberculosis, 1916, **1**, 581, ab.
Kahn, R. L. A note on the nature of the reaction of *B. coli* on Endo medium, 1918, **3**, 547
— The differentiation of lactose fermenting anaerobes from *B. coli*, 1918, **3**, 561
— A simplified confirmatory test for *B. coli*, 1918, **3**, 555
— Disimmunization and accompanying phenomena, 1934, **27**, 92, ab.
— Colloid chemical aspects of the Kahn reaction, 1928, **15**, 49, ab.
— Skin response as a measure of immunization and sensitization, 1933, **25**, 81, ab.
— Report: the recent League of Nations conferences on the serology of syphilis, 1932, **23**, 13, ab.
— Lubin, G., and McDermott, E. An auxiliary antigen for the Kahn test, 1929, **17**, 49, ab.
— and McDermott, E. B. Serum reactions in the disimmunized state, 1934, **27**, 94, ab.
— McDermott, E., and Lubin, G. Principles of antigen correction for Kahn reaction, 1928, **15**, 49, ab.
— — —. Studies on the Kahn reaction with spinal fluids, 1929, **17**, 50, ab.
— — and Nagle, N. Relation between appearance of precipitate and potency of serum in Kahn reaction, 1927, **13**, 37, ab.
— and Nagle, N. Studies on standardization of antigen for Kahn test, 1927, **13**, 36, ab.
— Malloy, A. M., and Westall, L. Precipitation studies with spinal fluid, 1930, **19**, 35, ab.
— McDermott, E. B., and Sattler, S. D. The fate of specific antigen in the immunized animal: extent of its (1) temporary retention in area of injection, (2) diffusion from this area, (3) destruction in this area, and (4) destruction following diffusion, 1935, **29**, 50, ab.
— *See* Kendrick, P. L., 1926, **11**, 105, ab.
Kallas, J. G. *See* Ruchhoft, C. C., 1930, **19**, 269
— *See* Ruchhoft, C. C., 1931, **21**, 407
— *See* Ruchhoft, C. C., 1931, **22**, 125
Kaneko, R. *See* Inda, R., 1916, **1**, 379, ab.
Kaplan, B. *See* Rappaport, B. Z., 1926, **11**, 109, ab.
Kaplan, L. *See* Kaplan, M. L., 1933, **25**, 309
Kaplan, M. L., and Kaplan, L. The Gram stain and differential staining, 1933, **25**, 309
Kapnick, I. *See* Mueller, J. H., 1935, **30**, 525
Katz, J., and Lipsitz, A. Studies on the effect of synthetic surface-active materials on bacterial growth. I. The effect of sodium disecondary butyl naphthalene sulphonate on the growth of *Mycobacterium smegmatis*, 1935, **30**, 419
Kauffmann, G. *See* Felton, L. D., 1935, **29**, 149
Keilty, R. A. Syphilis and tuberculosis in the same lung, 1916, **1**, 694, ab.
— A final report on the cultivation of the tubercle bacillus from the sputum by the method of Petroff, 1916, **1**, 584, ab.

Keilty, R. A. Hydrochloric acid as a decolorizing agent for the tubercle bacillus, 1916, **1,** 576, ab.
— A device for protection against the tubercle bacillus, 1916, **1,** 576, ab.
— and McMaster, P. D. A study of the normal bacterial flora of postage stamps, 1916, **1,** 707, ab.
Keipper, C. H., and Fred, E. B. The microörganisms of cabbage and their relation to sauerkraut production, 1930, **19,** 53, ab.
— *See* Behrens, C. A., 1928, **15,** 43, ab.
Keith, H. R. *See* Cooke, J. V., 1927, **13,** 315
Keller, M. Factors in the preparation of bacteriophage, 1931, **22,** 199
Kellert, E. An eye-shade for use with the microscope, 1916, **1,** 373, ab.
Kelly, C. D. The rate of chemical change in milk brought about by certain lactic acid streptococci, 1932, **23,** 58, ab.
— *See* Pederson, C. S., 1932, **23,** 62, ab.
— and Rahn, O. The growth rate of individual bacterial cells, 1932, **23,** 147
Kelly, F. L. *See* Geiger, J. C., 1916, **1,** 258, ab.
Kelser, R. A. The preparation of culture media from whole blood, 1916, **1,** 615
Kemper, C. F. Further investigation into the precipitation of the typhoid bacillus by means of definite hydrogen-ion concentration, 1916, **1,** 459, ab.
Kendall, F. E. *See* Heidelberger, M., 1934, **27,** 90, ab.
Kendall, S. E. *See* Werkman, C. H., 1930, **19,** 18, ab.
Kendrick, P., and Eldering, G. A study of *B. pertussis* cultures by means of animal inoculation, 1934, **27,** 97, ab.
— and Hollon, H. C. Serologic and bacteriophagic relationships in a group of fecal streptococci, 1931, **21,** 49, ab.
— and Kahn, R. L. Precipitation with fractions of syphilitic serum, 1926, **11,** 105, ab.
Kennedy, J. A. *See* Conn, H. J., 1932, **23,** 12, ab.
— *See* Conn, H. J., 1933, **25,** 20, ab.
— *See* Conn, H. J., 1934, **27,** 22, ab.
— *See* Conn, H. J., 1935, **29,** 2, ab.
Kereszturi, C. *See* Mishulow, L., 1934, **27,** 103, ab.
Kersten, H. *See* Blank, I. H., 1935, **30,** 21
Kessel, J. F., and Fisk, R. T. The Californian strain of Myxoma virus, 1932, **23,** 113, ab.
— A comparison of streptococci from the colon with Bargen's organism, 1935, **29,** 68, ab.
Kessler, M. A., and Swenarton, J. C. Gentian violet lactose pepton bile for the detection of *B. coli* in milk, 1927, **14,** 47
Ketron, L. W., and King, J. H. Gastrointestinal findings in acne vulgaris, 1916, **1,** 695, ab.
Kyes, P. The natural resistance of the pigeon to the pneumococcus, 1916, **1,** 701, ab.
Kilmer, F. B., Clark, A. W., and Hampton, P. Phenol coefficient of germicides, 1916, **1,** 126, ab.
King, C. G. *See* Mead, M. W., Jr., 1929, **17,** 151
King, J. H. *See* Ketron, L. W., 1916, **1,** 695, ab.
King, J. J. Connellan-King diplococcus. Infection of the tonsil, 1916, **1,** 697, ab.
King, W. E., and Drake, R. H. *Spirochaeta hyos.*—Its antigenic value in the complement fixation tests on hog cholera sera. Studies on hog cholera, 1916, **1,** 114, ab.
King, W. V. *Anopheles punctipennis*, a host of tertian malaria, 1916, **1,** 583, ab.
Kinsella, R. A. *See* Swift, H. F., 1916, **1,** 462, ab.

Kirkbride, M. B., Wheeler, M. W., and Hendry, J. L. A study of the reactions between toxins and antisera produced with hemolytic streptococci, 1928, **15**, 36, ab.

Klarmann, E., Shternov, V. A., and von Wowern, J. The germicidal action of halogen derivatives of phenol and resorcinol and its impairment by organic matter, 1929, **17**, 423

Klein, E. A stain for tubercle bacilli, 1916, **1**, 256, ab.

Klein, S. J. Studies on the solubility of pneumococcus in saponin. II. Sensitization by ergosterol, 1933, **26**, 215

— Studies on the solubility of pneumococcus in saponin. III. The saponin-lysis reaction as a means of differentiating pneumococcus and streptococcus, 1935, **30**, 43

— and Stone, E. M. The lysis of pneumococcus by saponin, 1931, **22**, 387

Klein, S. R. Laboratory facts in poliomyelitis, 1916, **1**, 695, ab.

Kligler, I. J. The effect of hydrogen ion concentration on the production of precipitates in a solution of peptone and its relation to the nutritive value of media, 1917, **2**, 351

— Some regulating factors in bacterial metabolism, 1916, **1**, 663, ab.

— The evolution and relationship of the great groups of bacteria, 1917, **2**, 165

— A study of the bacteria of normal and decayed teeth, 1916, **1**, 114, ab.

— Non-lactose fermenting bacteria from polluted wells and sub-soil, 1919, **4**, 35

— Note on cross-agglutination of *B. coli communis* and *B. dysenteriae* Shiga, 1918, **3**, 441

— Yeast autolysate as a culture medium for bacteria, 1919, **4**, 183

— and Aschner, M. Observations on the physical and biological characteristics of *Leptospira*, 1928, **16**, 79

— — Cultivation of rickettsia-like microorganisms from certain blood-sucking pupipara, 1931, **22**, 103

— and Defandorfer, J. The Endo medium for the isolation of *B. dysenteriae* and a double sugar medium for the differentiation of *B. dysenteriae*, Shiga and Flexner, 1918, **3**, 437

— *See* Conn, H. J., 1918, **3**, 115

— *See* Conn, H. J., 1919, **4**, 107

— *See* Conn, H. J., 1920, **5**, 127

— *See* Conn, H. J., 1920, **5**, 315

— *See* Conn, H. J., 1921, **6**, 135

— *See* Winslow, C.-E. A., 1916, **1**, 81, ab.

— *See* Winslow, C.-E. A., 1919, **4**, 429

Klimek, J. *See* Hadley, P., 1931, **21**, 7, ab.

Klise, K. S. *See* Mueller, J. H., 1932, **23**, 83, ab.

— *See* Mueller, J. H., 1933, **25**, 509

Klix, H. C. *See* Ferry, N. S., 1918, **3**, 309

Knacke, F. E. D. *See* Noble, W. C., Jr., 1928, **15**, 55

Knaysi, G. A microscopic method of distinguishing dead from living bacterial cells, 1935, **30**, 193

— Further observations on certain variants of *Bacillus megatherium*, 1935, **29**, 389

— Remarks on two modes of cell division in bacteria, 1929, **17**, 4, ab.

— Morphological and cultural studies of *Bacillus megatherium*, with special reference to dissociation, 1933, **26**, 623

— The cell structure and cell division of *Bacillus subtilis*, 1930, **19**, 113

— A preliminary note on the cytology of *Mycobacterium tuberculosis*, 1929, **17**, 56, ab.

— and Dutky, S. R. The growth of *Bacillus megatherium* in relation to free oxygen and the oxidation-reduction potential of the medium, 1933, **25**, 30, ab.

Knaysi, G., and Dutky, S. R. The growth of *Bacillus megatherium* in relation to the oxidation-reduction potential and the oxygen content of the medium, 1934, **27**, 109

— *See* Herrington, B. L., 1930, **19**, 101

Knopf, S. A. The period of life at which infection from tuberculosis occurs most frequently, 1916, **1**, 265, ab.

Kobel, M. *See* Neuberg, C., 1934, **28**, 461

Koch, G. P. Diastase activity and invertase activity of bacteria, 1916, **1**, 556, ab.

— Preliminary investigations in comparison of field with laboratory experiments in soil biology, 1916, **1**, 675, ab.

— Studies on the activity of soil protozoa, 1916, **1**, 679, ab.

Koch, K. R. Quantitative determination of the bacteremia in *Pneumococcus pneumonia* and its value as a prognostic indicator, 1932, **23**, 106, ab.

Koch, R., and Mellon, R. R. The biological and clinical significance of diphtheroids in the blood stream, 1930, **19**, 25, ab.

Koerber, K. *See* Downs, C. M., 1928, **15**, 41, ab.

Koga, G. A contribution to the chemotherapy of tuberculosis, first clinical report, 1916, **1**, 700, ab.

— A contribution to the chemotherapy of tuberculosis, first experimental report, 1916, **1**, 699, ab.

Kohman, E. F. The so-called reduced oxygen tension for growing the meningococcus, 1919, **4**, 571

Kohn, L. A., and Krumwiede, C., Jr. On the value of the petroleum-ether method for the isolation of *B. typhosus* from feces, 1918, **3**, 361

Kolmer, J. A. Complement fixation in vaccinia and variola, 1916, **1**, 568, ab.

— Complement fixation in varicella, 1916, **1**, 568, ab.

— An allergic skin reaction to diphtheria bacilli, 1916, **1**, 365, ab.

— and Smith, A. J. The bactericidal and protozoacidal effect of emetin hydrochloride in vivo, 1916, **1**, 698, ab.

— and Trist, M. E. Studies in non-specific complement fixation: I. Non-specific complement fixation by normal rabbit serum, 1916, **1**, 369, ab.

— — and Heist, G. D. Studies in non-specific complement fixation: II. Non-specific complement fixation by normal dog serum, 1916, **1**, 370, ab.

— and Pearce, R. M. Studies in non-specific complement fixation: III. The influence of splenectomy and anesthetics on the non-specific complement fixation sometimes shown by normal rabbit and dog sera, 1916, **1**, 370 ab.

— Studies in non-specific complement fixation: IV. The relation of serum lipoids and proteins to non-specific complement fixation with normal rabbit and dog sera, 1916, **1**, 371, ab.

— and Trist, M. E. Studies in non-specific complement fixation: V. The effect of heat on normal rabbit and dog sera in relation to antilytic and non-specific complement fixation reactions, 1916, **1**, 371, ab.

— — and Heist, G. D. Complement fixation in intestinal parasitism of dogs, 1916, **1**, 369, ab.

— *See* Strickler, A., 1916, **1**, 462, ab.

— Woody, S. S., and Moshage, E. L. The practical value of guinea pig tests for the virulence of diphtheria bacilli, 1916, **1**, 382, ab.

Kopeloff, L. M., Etchells, J. L., and Kopeloff, N. Acidophilus milk at room and ice-box temperatures, 1934, **27**, 38, ab.

Kopeloff, L. M., Kopeloff, N., Hinsie, L. E., and Etchells, J. L. Tuberculous bacillemia and dementia praecox, 1935, **30,** 49
— — — — Loewenstein's method of culturing *B. tuberculosis,* 1935, **29,** 33, ab.
— Etchells, J. L., and Kopeloff, N. Bacteriological changes in acidophilus milk at room and ice-box temperatures, 1934, **28,** 489
— *See* Kopeloff, N., 1933, **25,** 99, ab.
Kopeloff, N. Inoculation malaria: sexual and asexual strains, 1930, **19,** 25, ab.
— The effect of soil reaction on ammonification by certain soil fungi, 1916, **1,** 675, ab.
— The inoculation and incubation of soil fungi, 1916, **1,** 557, ab.
— and Beerman, P. The influence of *L. acidophilus* on the colon-aerogenes group in the intestine, 1926, **11,** 101, ab.
— — Surface tension studies with *L. acidophilus* and *L. bulgaricus,* 1927, **13,** 7, ab.
— Blackman, N., and McGinn, B. The incidence of *L. acidophilus* in adults, 1932, **23,** 109, ab.
— and Cohen, P. Further studies on a modification of the Gram stain, 1928, **15,** 12, ab.
— Kopeloff, L. M., and Raney, M. E. A study of typhoid agglutinins and conditioned reflex, 1933, **25,** 99, ab.
— Lint, H. C., and Coleman, D. A. A new method of separating fungi from protozoa and bacteria, 1916, **1,** 373, ab.
— Lonergan, M. P., and Beerman, P. *L. acidophilus* in epilepsy, 1926, **11,** 101, ab.
— *See* Coleman, D. A., 1916, **1,** 560, ab.
— *See* Kopeloff, L. M., 1934, **27,** 38, ab.
— *See* Kopeloff, L. M., 1934, **28,** 489
— *See* Kopeloff, L. M., 1935, **29,** 33, ab.
— *See* Kopeloff, L. M., 1935, **30,** 49
— *See* Raney, M. E., 1934, **27,** 45, ab.
— *See* Upton, M. F., 1931, **21,** 51, ab.
— *See* Upton, M. F., 1932, **23,** 455
Koplik, H., and Unger, L. J. The diphtheria toxin skin reaction, 1916, **1,** 573, ab.
Koser, S. A. Bacteriophage active against a thermophilic bacillus, 1927, **13,** 14, ab.
— Correlation of citrate utilization by members of the colon-aerogenes group with other differential characteristics and with habitat, 1924, **9,** 59
— Utilization of the salts of organic acids by the colon-aerogenes group, 1923, **8,** 493
— Differential tests and their relation to habitat of the coli-aerogenes group, 1926, **11,** 77, ab.
— Further observations on utilization of the salts of organic acids by the colon-aerogenes group, 1926, **11,** 409
— and Galt, R. H. The oxalic acid test for indol, 1926, **11,** 293
— and Mills, J. H. Differential staining of living and dead bacterial spores, 1925, **10,** 25
— and Saunders, F. The separation from veal infusion of factors essential to the growth of certain "fastidious" bacteria, 1935, **29,** 17, ab.
— — The fermentation of alpha-methyl-d-glucoside by members of the coli-areogenes group, 1932, **24,** 267
— — The utilization of certain sugars and their derivatives by bacteria, 1933, **26,** 475
— — The utilization of certain substituted sugars by bacteria, 1933, **25,** 32, ab.
— and Skinner, W. W. Viability of the colon-typhoid group in carbonated water and carbonated beverages, 1922, **7,** 111

Koser, S. A., and Styron, N. C. Dissociation of *Bacterium dysenteriae*, Sonne type, as influenced by variations in culture medium, 1930, **19,** 13, ab.
— *See* Dienst, R. B., 1932, **23,** 23, ab.
— *See* Grubb, T. C., 1934, **27,** 45, ab.
Kotler, L. *See* Pribram, E. A., 1934, **27,** 24, ab.
— *See* Pribram, E. A., 1935, **29,** 21, ab.
Kozlowski, A. A comparative study of the action of sodium ricinoleate upon bacteria, 1928, **16,** 203
Kramer, S. D., and Schaeffer, M. Immunity to poliomyelitis. Active immunization, 1934, **27,** 85, ab.
Krantz, J. C., Jr. *See* Dozois, K. P., 1935, **30,** 189
Krasnow, F., Rivkin, H., and Rosenberg, M. L. A method of studying the availability of synthetic media for streptococci, 1926, **12,** 385
Kretschmer, H. L., and Gaarde, F. W. The treatment of chronic colon bacillus pyelitis by pelvic lavage, 1916, **1,** 695, ab.
Kriebel, R. M. A comparative bacteriological study of a group of nonlactose-fermenting bacteria isolated from stools of healthy food-handlers, 1934, **27,** 357
Kritschewski, I. L., and Ponomarewa, I. W. On the pleomorphism of bacteria. I. On the pleomorphism of *B. paratyphi B.*, 1934, **28,** 111
Krueger, A. P., and Nichols, V. C. The denaturation of staphylococcal proteins, 1935, **30,** 401
Krumwiede, C., Jr. Studies on the paratyphoid-enteritidis group, 1916, **1,** 681, ab.
— and Pratt, J. S. A bacteriological study of pyorrhoea alveolaris and apical abscesses in relation to vaccine therapy, 1916, **1,** 684, ab.
— — and McWilliams, H. I. The use of brilliant green for the isolation of typhoid and paratyphoid bacilli from feces, 1916, **1,** 129, ab.
— *See* Kohn, L. A., 1918, **3,** 361
— *See* Winslow, C.-E. A., 1917, **2,** 505
— *See* Winslow, C.-E. A., 1920, **5,** 191
Kullmann, E. D. *See* Wilson, P. W., 1931, **22,** 71
Kulp, W. L. A note concerning the effect of a specific environment on the characteristics and viability of several strains of *Aerobacter aerogenes* and *Escherichia coli*, 1932, **24,** 317
— Indol studies, 1925, **10,** 459
— Preliminary report on a method for the differentiation of *L. acidophilus* from *L. bulgaricus*, 1929, **17,** 355
— and Borden, A. G. Further studies on immunization with heterologous antigen, 1935, **30,** 212, ab.
— and Lackman, D. A report of experimental immunization against *Proteus hydrophilus*, the etiological agent in "red-leg" disease of frogs, 1934, **27,** 86, ab.
— and Rettger, L. F. Comparative study of *Lactobacillus acidophilus* and *Lactobacillus bulgaricus*, 1924, **9,** 357
— *See* Conn, H. J., 1928, **16,** 145
— *See* Conn, H. J., 1930, **19,** 2, ab.
— *See* Conn, H. J., 1931, **21,** 1, ab.
Kunkel, L. O. Some characteristics of virus diseases of plants, 1927, **13,** 23, ab.
Kusama, Y. *See* Manwaring, W. H., 1916, **1,** 686, ab.
— *See* Manwaring, W. H., 1916, **1,** 687, ab.
Kuttner, A. G. Bacteriophage phenomena, 1923, **8,** 49

L

Lacy, G. R. *See* Bailey, S. F., 1927, **13,** 183
LaGarde, L. A. The bacterial flora of infected gun shot wounds, 1916, **1,** 131, ab.
Lake, G. B. Two laboratory suggestions, 1916, **1,** 256, ab.

Lambert, R. A. Technique of cultivating human tissues in vitro, 1916, **1**, 464, ab.

— Limitations to the cultivation of mammalian tissues in vitro, 1916, **1**, 694, ab.

Lamson, R. W. The Van Slyke method for the determination of amino-acid nitrogen as applied to the study of bacterial cultures, 1924, **9**, 307

Lancefield, R. C., and Hare, R. The serological differentiation of pathogenic and non-pathogenic strains of hemolytic streptococci from parturient women, 1935, **29**, 41, ab.

Lanford, J. A. *See* Harris, W. H., 1916, **1**, 569, ab.

Langlykke, A. F., and Fred, E. B. Products from the fermentation of glucose and arabinose by butyric acid anaerobes, 1935, **29**, 85, ab.

— Peterson, W. H., and McCoy, E. Products from the fermentation of glucose and arabinose by butyric acid anaerobes, 1935, **29**, 333

Lange, L. B. The dimensions of dividing microörganisms, 1927, **14**, 275

Lange, W. F. Relation of changes in morphology and metabolism in *B. coli*, 1933, **25**, 123

Langwill, B. The character of acids produced by hemolytic and non-hemolytic streptococci from pathogenic sources and from milk. I. Introduction, 1924, **9**, 79

Langworthy, H. V. *See* Giltner, W., 1916, **1**, 123, ab.

Langworthy, V. *See* Giltner, W., 1916, **1**, 96, ab.; 123, ab

Larkum, N. W. Bacteriophage as a substitute for the typhoid vaccine, 1929, **17**, 42, ab.

— Bacteriophagy in urinary infection. I. The incidence of bacteriophage and of *Bacillus coli* susceptible to dissolution by the bacteriophage in urines. Presentation of cases of renal infection in which bacteriophage was used therapeutically, 1926, **12**, 203

— Bacteriophagy in urinary infection. II. Bacteriophagy of the bladder, 1926, **12**, 225

— and Corpron, R. Effect of massive and repeated doses of bacteriophage, 1933, **25**, 77, ab.

— and Semmes, M. F. Filtration of bacteriophage, 1930, **19**, 213

Larsen, A. *See* Ørskov, J., 1925, **10**, 473

Larson, N., and Thompson, L. Potato extract broth for the typing of *Diplococcus pneumoniae*, 1930, **19**, 33, ab.

Larson, W. P. Immunization against diphtheria and scarlet fever with toxins detoxified with sodium ricinoleate, 1926, **11**, 114, ab.

Laubach, C. A. Studies on aerobic spore-bearing non-pathogenic bacteria. Part II. Spore-bearing bacteria in dust, 1916, **1**, 493

— Spore-bearing organisms in water, 1916, **1**, 505

— and Rice, J. L. Spore-bearing bacteria in soil, 1916, **1**, 513

Lavinder, C. H. Vaccines of favus and ringworm, 1916, **1**, 365, ab.

Laviano, A. B. *See* Gilbert, R., 1932, **23**, 110, ab.

Lawler, B. M. *See* Mudge, C. S., 1928, **15**, 24, ab.

— *See* Mudge, C. S., 1928, **15**, 25, ab.

— *See* Mudge, C. S., 1928, **15**, 207

Lawrence, J. S., and Ford, W. W. Spore-bearing bacteria in milk, 1916, **1**, 277

Lawson, G. W. *See* Lipsitz, S. T., 1916, **1**, 579, ab.

Leahy, A. D., and Carpenter, C. M. The isolation of *Neisseria gonorrhoeae*, 1935, **29**, 36, ab.

Leary, J. T., Hartz, H. J., and Hawk, P. B. The contents of ovarian cysts, 1916, **1**, 579, ab.

Lederer, A. Experiences in the application of activated sludge process to Chicago stockyard sewage, 1916, **1**, 457, ab.

LeFevre, E., and Round, L. A. A preliminary report upon some halophilic bacteria, 1919, **4**, 177

Lehr, B. E. *See* Broadhurst, J., 1930, **19**, 38, ab.

Leifson, E. A simple apparatus for pouring an exact quantity of agar into plates aseptically and free from foam and bubbles, 1935, **30**, 423

— Types of bacteria on blood and chocolate agar and the immediate cause of these types, 1932, **23**, 36, ab.

— Types of bacteria on blood and chocolate agar and the immediate cause of these types, 1932, **24**, 473

— A new medium for the isolation of intestinal pathogens, 1934, **27**, 32, ab.

— The fermentation of sodium malonate as a means of differentiating Aerobacter and Escherichia, 1933, **26**, 329

— Bacterial spores, 1931, **21**, 331

— Development of flagella on germinating spores, 1931, **21**, 357

— A method of staining bacterial flagella and capsules together with a study of the origin of flagella, 1930, **20**, 203

Leiter, L. W. The Eijkman fermentation test as an aid in the detection of fecal organisms in water, 1929, **17**, 11, ab.

LeMar, J. D., and Myers, J. T. The artificial production of a specific lytic agent which behaves like bacteriophage, 1934, **27**, 49, ab.

Lemchen, B. Study of the blood with a new stain, 1916, **1**, 374, ab.

Lennette, E. H., and Hudson, N. P. Failure to infect monkeys with poliomyelitis virus through isolated intestinal loops, 1935, **29**, 63, ab.

Leonard, G. F. A comparison of methods for determination of potency as observed on a group of horses immunized against diphtheria, 1931, **21**, 46, ab.

— and Heacock, E. Comparative methods for the testing of various germicidal agents, 1928, **15**, 15, ab.

— and Holm, A. The purification of diphtheria toxoid, 1933, **25**, 83, ab.

— — Utilization of carbohydrates and salts of organic acids by *C. diphtheriae* in the production of strong toxin, 1934, **27**, 98, ab.

— and Holm, A. A method for the production of staphylococcus toxin and toxoid, 1935, **29**, 45, ab.

— and Varley, J. R. The effect of alum on horses used for the production of diphtheria antitoxin, 1932, **23**, 109, ab.

Leonard, L. T. *Bacillus radiobacter* in reference to commercial legume inoculants, 1931, **21**, 35, ab.

— Nitrite production by some strains of cowpea and soybean organisms, 1929, **17**, 19, ab.

— Variation in nodule formation, 1916, **1**, 456, ab.

— and Dodson, W. R. The effects of nonbeneficial nodule bacteria on Austrian winter peas, 1932, **23**, 69, ab.

— and Marsh, F. W. The insolation of certain culture media, 1928, **15**, 195

— The nodule organism of *Mimosa pudica L.*, 1934, **27**, 55, ab.

Leonard, M. D. *See* Stewart, V. B., 1916, **1**, 384, ab.

Leo-Wolf, C. G. Influenza and grippe in infants and children, 1916, **1**, 259, ab.

Letton, H. P. The water supplies of interstate common carriers on the Great Lakes, 1916, **1**, 458, ab.

— *See* Williams, C. L., 1916, **1**, 547

Levene, B. S. The removal of the natural impurities of cotton cloth by the action of bacteria, 1916, **1**, 463, ab.
Levin, H. *See* Rosenstein, C., 1935, **29**, 6
Levin, I. *See* Rosenstein, C., 1935, **29**, 6
Levin, O. L. The microscope in dermatology, 1916, **1**, 696, ab.
Levine, M. *See* Charlton, D. B., 1935, **30**, 163
— *See* Vaughn, R., 1935, **29**, 24, ab.
Levine, M. A statistical classification of the colon-cloacae group, 1918, **3**, 253
— Preliminary note on the classification of some lactose fermenting bacteria, 1916, **1**, 619
— The sanitary control of swimming pools, 1916, **1**, 680, ab.
— On the significance of the Voges-Proskauer reaction, 1916, **1**, 153
— On the correlation of the Voges-Proskauer and the methyl red reaction, 1916, **1**, 87, ab.
— The correlation of the Voges-Proskauer and methyl red reaction in the coli-aerogenes group of bacteria, 1916, **1**, 566, ab.
— and Anderson, D. Q. Some characteristics of bacteria causing mustiness in eggs, 1930, **19**, 55, ab.
— and Anderson, D. Q. Two new species of bacteria causing mustiness in eggs, 1932, **23**, 337
— and Buchanan, J. H. An index useful in designating the germicidal efficiency of alkaline washing compounds, 1928, **15**, 15, ab.
— Burke, G. W., and Watkins, J. H. Some observations on the purification of creamery wastes, 1926, **11**, 94, ab.
— — — Oxidation of sugar on trickling filters, 1926, **11**, 94, ab.
— and Carpenter, D. C. Gelatin liquefaction by bacteria, 1923, **8**, 297
— and Eberson, F. A milkborne paratyphoid outbreak in Ames, Iowa, 1916, **1**, 464, ab.
— and Shaw, F. W. Further observations on liquefaction of gelatin by bacteria, 1924, **9**, 225
— *See* Charlton, D. B., 1934, **27**, 37, ab.
— *See* Goresline, H. E., 1930, **19**, 51, ab.
— *See* Johnson, B. R., 1917, **2**, 379
Levine, P., and Frisch, A. W. The specific behavior of bacteriophage, 1935, **29**, 67, ab.
Levine, V. E. The reducing properties of microörganisms with special reference to selenium compounds, 1925, **10**, 217
Lewis, D. M. Control of diphtheria, 1916, **1**, 581, ab.
Lewis, I. M. Bacterial antagonism with special reference to the effect of *Pseudomonas fluorescens* on spore-forming bacteria of soils, 1929, **17**, 89
— Dissociation and life cycle of *Bacillus mycoides*, 1932, **24**, 381
— Bacterial variation with special reference to behavior of some mutabile strains of colon bacteria in synthetic media, 1934, **28**, 619
— Cell inclusions and endospore formation in *Bacillus mycoides*, 1934, **28**, 133
— Secondary colonies of bacteria with special reference to *Bacillus mycoides*, 1933, **25**, 359
— The inhibition of *Phytomonas malvaceara* in culture media containing sugars, 1930, **19**, 425
— *See* Buchholz, J. T., 1930, **19**, 105
— *See* Swearingen, J. S., 1933, **26**, 201
Lewis, K. H., and Hitchner, E. R. Slow lactose fermenting bacteria pathogenic for young chicks, 1935, **29**, 22, ab.
— and McCoy, E. Nodule formation on excised roots of the bean, 1933, **25**, 55, ab.
Levy, M. D. The use of the sand tube in isolating the *Bacillus typhosus*, 1916, **1**, 373, ab.
Lillie, R. D. *See* Branham, S. E., 1933, **25**, 90, ab.

Liming, R. *See* Broadhurst, J., 1935, **30,** 444, ab.
Lindegren, C. C., and Mellon, R. R. Observations on a chromosomal mechanism for the bacterial cell, 1933, **25,** 47, ab.
Lindsey, G. A., and Meckler, C. M. Two rapid methods for distinguishing between *Escherichia coli* and *Aerobacter aerogenes*, 1932, **23,** 115
— and Rhines, C. M. The production of hydroxylamine by the reduction of nitrates and nitrites by various pure cultures of bacteria, 1932, **24,** 489
Lineweaver, H. *See* Burk, D., 1930, **19,** 389
— *See* Burk, D., 1934, **27,** 325
Lint, H. C., and Coleman, D. A. Sources of error in soil bacteriological analysis, 1916, **1,** 675, ab.
— *See* Coleman, D. A., 1916, **1,** 560, ab.
— *See* Kopeloff, N., 1916, **1,** 373, ab.
— *See* Lipman, J. G., 1916, **1,** 678, ab.
Linton, R. W. *See* Rosebury, T., 1929, **18,** 395
Lintz, W. Trichinosis and the cerebrospinal fluid, 1916, **1,** 579, ab.
Lipman, C. B. The bacterial flora of serpentine soils, 1926, **12,** 315
— Living microörganisms in ancient rocks, 1931, **22,** 183
— The concentration of sea-water as affecting its bacterial population, 1926, **12,** 311
— and Fowler, L. W. Preliminary experiments on some effects of leaching on the soil flora, 1916, **1,** 553, ab.
— and Waynick, D. D. A detailed study of effects of climate on important properties of soils, 1916, **1,** 562, ab.
— Bacteria in travertine from the Yellowstone, 1935, **29,** 3, ab.
Lipman, J. G., and Blair, A. W. The yield and nitrogen content of soy beans as affected by inoculation, 1916, **1,** 677, ab.
— McClean, H. C., and Lint, H. C. The oxidation of sulfur in soils as a means of increasing the availability of mineral phosphates, 1916, **1,** 678, ab.
Lippard, V. W. The immunological response following the ingestion of food proteins by normal infants, 1935, **30,** 444, ab.
Lipsitz, S. T., Lawson, G. W., and Fessenden, E. M. Case of coccidioidal granuloma, 1916, **1,** 579, ab.
Lipsitz, A. *See* Katz, J., 1935, **30,** 419
Lisk, H. A study of the decomposition products of spore-bearing bacteria in heated milk, 1924, **9,** 1
Lisse, M. W., Jensen, O. G., and Tittsler, R. P. A comparison of colorimetric and potentiometric methods for hydrogen ion determination of solid bacterial media, using a dilution method based on the buffer equation, 1931, **21,** 383
— *See* Dozois, K. P., 1932, **24,** 123
— *See* Tittsler, R. P., 1928, **15,** 105
— *See* Tittsler, R. P., 1932, **23,** 481
Little, J. T. *See* McDonald, J. F., 1927, **13,** 255
Little, R. B. *See* Jones, F. S., 1932, **23,** 267
Lloyd, B. A marine denitrifying organism, 1931, **21,** 89
Lochhead, A. G. Bacteriological studies of the red discoloration of salted hides, 1934, **27,** 61, ab.
— and Johns, C. K. The relative efficiency of various methods of sterilization of milk utensils in the destruction of *Es. coli*, 1933, **25,** 62, ab.
— and Thexton, R. H. Quantitative studies of three species of *Rhizobium* in soils of different fertilizer treatment, 1935, **29,** 77, ab.
Locke, A., and Main, E. R. The nature of diphtheria toxin, 1928, **15,** 35, ab.

Loebel, R. O., Shorr, E., and Richardson, H. B. The influence of adverse conditions upon the respiratory metabolism and growth of human tubercle bacilli, 1933, **26,** 167

— — — The influence of foodstuffs upon the respiratory metabolism and growth of human tubercle bacilli, 1933, **26,** 139

Löhnis, F., and Smith, N. R. Life cycles of the bacteria (preliminary communication), 1916, **1,** 704, ab.

Lonergan, M. P. *See* Kopeloff, N., 1926, **11,** 101

Long, E. R. Experimental mouse tuberculosis, 1934, **27,** 102, ab.

Long, H. F. *See* Frazier, W. C., 1934, **27,** 539

Long, M. A. *See* Broadhurst, J., 1932, **23,** 57, ab.

Long, P. H., and Bliss, E. A. The incidence and significance of minute hemolytic streptococci, 1935, **29,** 39, ab.

— *See* Bliss, E. A., 1935, **29,** 38, ab.

— *See* Bliss, E. A., 1934, **27,** 105, ab.

— *See* Carpenter, H. M., 1933, **25,** 241

Longcope, W. T., and Rackemann, F. M. Development of immune reactions in serum disease, 1916, **1,** 461, ab.

Longsworth, L. G., and MacInnes, D. A. Bacterial growth with automatic pH control. (A) An apparatus. (B) Some tests on the acid production of *Lactobacillus acidophilus,* 1935, **29,** 595

Loomis, A. L. *See* Harvey, E. N., 1929, **17,** 373

Loomis, N. E. *See* Fred, E. B., 1917, **2,** 629

Lothrop, R. E. *See* Hall, H. H., 1934, **27,** 349

Lubin, G. *See* Kahn, R. L., 1928, **15,** 49, ab.

— *See* Kahn, R. L., 1929, **17,** 49, ab.

— *See* Kahn, R. L., 1929, **17,** 50, ab.

Lubs, H. A. *See* Clark, W. M., 1917, **2,** 109

— *See* Clark, W. M., 1917, **2,** 1

— *See* Clark, W. M., 1917, **2,** 191

— *See* Rogers, L. A., 1916, **1,** 82, ab.

— *See* Rogers, L. A., 1918, **3,** 231

Luck, J. M. *See* Speakman, H. B., 1928, **15,** 319

Ludlum, L. C. *See* Giltner, W., 1916, **1,** 91, ab.

Lundsgaard, K. K. K. The so-called primary tuberculosis of the conjunctivita and the conjunctival tuberculosis of lupus patients, 1916, **1,** 376, ab.

Luttinger, P. *See* Nicoll, M., Jr., 1916, **1,** 685, ab.

Lyall, H. W. The types of pneumococci in tuberculous sputum, 1916, **1,** 695, ab.

Lyon, T. L. The course of nitrate accumulation in soils following the growth of crops, 1927, **13,** 50, ab.

Lynch, K. M. *Blastocystis hominis:* its characteristics and its prevalence in intestinal content and feces in South Carolina, 1917, **2,** 369

Lynch, L. C., and Clark, P. F. Endogenous infections by *Clostridium welchii,* 1935, **29,** 36, ab.

M

McAlpine, J. G., and Brigham, G. D. Some chemical studies of commercial bacteriological peptones, 1928, **16,** 251

— and Slanetz, C. A. Studies on the metabolism of the *Bact. abortus-melitensis bronchisepticum-alcaligines* group. I. Nitrogen metabolism, 1927, **13,** 11, ab.

— *See* Plastridge, W. N., 1931, **21,** 52, ab.

— *See* Rettger, L. F., 1924, **9,** 327

— *See* Valley, G., 1928, **15,** 44, ab.

McBeth, I. G. Studies on the decomposition of cellulose in soils, 1916, **1,** 557, ab.

McBroom, J. *See* Jordan, E. O., 1935, **29,** 131

McBurney, M. *See* Zinsser, H., 1916, **1**, 378, ab.
— *See* Zinsser, H., 1916, **1**, 379, ab.
— *See* Zinsser, H., 1916, **1**, 692, ab.
McCaffrey, J. C. *See* Sarles, W. B., 1935, **29**, 74, ab.
McCallan, S. E. A. *See* Wilcoxon, F., 1935, **30**, 441, ab.
McCarter, J. R., and Hastings, E. G. The classification of acid-fast bacteria, 1934, **27**, 41, ab.
— — Dissociation of an acid-fast organism, 1933, **25**, 51, ab.
— — The morphology of the mycobacteria, 1935, **29**, 503
— — The relation between the oxidation-reduction potential of the medium and the dissociation of an acid-fast organism, 1935, **29**, 15, ab.
McClung, L. S. Production of agglutinins against thermophilic organisms, 1934, **27**, 64, ab.
— A note on reaction changes during sterilization of vegetable extract culture media, 1932, **24**, 457
— and McCoy, E. A corn-liver medium for the detection and dilution counts of various anaerobes, 1934, **27**, 35, ab.
— — Studies on anaerobic bacteria. I. A corn-liver medium for the detection and dilution counts of various anaerobes, 1934, **28**, 267
— and McCoy, E. Heat labile and heat stable antigens in the production of agglutinins for various spore-bearing anaerobes, 1935, **29**, 59, ab.
— *See* Peterson, W. H., 1935, **29**, 84, ab.
— *See* McCoy, E., 1935, **29**, 59, ab.
— Studies on anaerobic bacteria. III. Historical review and technique of culture of certain thermophilic anaerobes, 1935, **29**, 173
— Studies on anaerobic bacteria. IV. Taxonomy of cultures of a thermophilic species causing "swells" of canned foods, 1935, **29**, 189
McConnell, G. Vincent's bacillus in the cervix, 1916, **1**, 696, ab.
McCoy, E. A serological study of certain butyric anaerobes of soil, 1934, **27**, 56, ab.
— The nature of the infection thread in leguminous root nodules, 1932, **23**, 46, ab.
— and Higby, W. M. Nitrogen fixation by pure cultures of anaerobic butyric acid-forming bacteria, 1928, **15**, 8, ab.
— *See* Hastings, E. G., 1932, **23**, 54, ab.
— *See* Lewis, K. H., 1933, **25**, 55, ab.
— *See* McClung, L. S., 1934, **27**, 35, ab.
— *See* McClung, L. S., 1934, **28**, 267
— *See* Tetrault, P. A., 1929, **17**, 14, ab.
— *See* Williams, F. T., 1933, **25**, 57, ab.
— and McClung, L. S. Application of the H-O technique of agglutination to certain clostridia, 1935, **29**, 59, ab.
— *See* Langlykke, A. F., 1935, **29**, 333
— *See* McClung, L. S., 1935, **29**, 59, ab.
McCoy, E. F. *See* Wright, W. H., 1927, **13**, 15, ab.
McCrea, F. D. *See* Tanner, F. W., 1923, **8**, 269
McCubbin, W. A., and Smith, F. F. Spread of mosaic virus in tomato plants, 1930, **19**, 23, ab.
McCulloch, E. C. The relation of temperature to the germicidal efficiency of lye solutions, 1932, **23**, 50, ab.
— The germicidal efficiency of hypochlorite solutions in the presence of chicken manure, 1934, **27**, 37, ab.
— The germicidal efficiency of sodium hydroxide, 1933, **25**, 469
McCullough, N. B. *See* Fabian, F. W., 1934, **27**, 43, ab.
— *See* Fabian, F. W., 1934, **27**, 583
McDermott, E. B. *See* Kahn, R. L., 1935, **29**, 50, ab.
— *See* Kahn, R. L., 1927, **13**, 37, ab.
— *See* Kahn, R. L., 1928, **15**, 49, ab.
— *See* Kahn, R. L., 1929, **17**, 49, ab.
— *See* Kahn, R. L., 1929, **17**, 50, ab.
— *See* Kahn, R. L., 1934, **27**, 94, ab.
McDonald, F. G. *See* Prickett, P. S., 1933, **25**, 61, ab.

McDonald, J. F., Little, J. T., and Ruckensteiner, E. A study in bacterial morphology, 1927, **13,** 255

McGinn, B. *See* Kopeloff, N., 1932, **23,** 109, ab.

McGrath, J. T., and Anderson, J. A. Lipolytic activities of several bacteria causing bitter cream, 1934, **27,** 68, ab.

McGuire, G., Valentine, E., Whitney, E., and Falk, K. G. Studies on antibodies. IV. The carbohydrate content as a criterion of the suitability of a broth for the culture of pneumococci, 1932, **23,** 223

— *See* Falk, K. G., 1932, **23,** 235

McKelvey, C. E. Notes on yeasts in carbonated beverages, 1926, **11,** 98, ab.

McKinley, E. B. The relation of digestive enzymes and ferments to the phenomenon of d'Herelle, 1923, **8,** 543

McKinney, R. A. The variant and filterable forms of certain green-producing streptococci, 1934, **27,** 373

McLaughlin, A. J. Practical points in the prevention of Asiatic cholera, 1916, **1,** 131, ab.

— Practical points in the prevention of Asiatic cholera, 1916, **1,** 377, ab.

McLean, H. C. *See* Lipman, J. G., 1916, **1,** 678, ab.

McMaster, P. D. *See* Keilty, R. A., 1916, **1,** 707, ab.

McWilliams, H. I. Is the hyperleucocytosis following the injection of typhoid bacilli into immunized rabbits specific?, 1916, **1,** 569. ab.

— *See* Krumwiede, C., Jr., 1916, **1,** 129, ab.

MacInnes, D. A. *See* Longsworth, L. G., 1935, **29,** 595

MacKee, G. M. Progress in the treatment of skin diseases, 1916, **1,** 253, ab.

MacKenzie, G. M., Fitzgerald, H., and Irons, V. Studies in microbic dissociation. II. Changes in the biological characters of *Shigella paradysenteriae* during dissociation and partial reversion, 1935, **29,** 583

Maclean, M. E. *See* Broadhurst, J., 1935, **30,** 444, ab.

MacLeod, D. J. *See* Reed, G., 1924, **9,** 119

Maclure, W. B. *See* Hoffman, W. H., 1916, **1,** 583, ab.

MacWhinnie, A. M. The treatment of infections of the accessory sinus, 1916, **1,** 260, ab.

Machlis, S., and Blanchard, K. C. The rôle of glutathione in the metabolism of yeast, 1935, **30,** 442, ab.

Mackinney, W. H. *See* Uhle, A. A., 1916, **1,** 260, ab.

Macy, H. Chart of the families and genera of the bacteria, 1921, **6,** 575

Madison, R. R. *See* Clifton, C. E., 1931, **22,** 255

Magee, M. C., and Smith, H. G. A study of methods for the estimation of reducing sugar in bacteriological media, 1930, **19,** 125

Magoon, C. A. Studies upon bacterial spores. I. Thermal resistance as affected by age and environment, 1926, **11,** 253

— and Brunstetter, B. C. A new vessel for the efficient aeration of bacterial cultures in liquid media, 1930, **19,** 5, ab.

— — A new vessel for the efficient aeration of bacterial cultures in liquid media, 1930, **19,** 415

— *See* Brunstetter, B. C., 1932, **24,** 85

— *See* Brunstetter, B. C., 1931, **21,** 33, ab.

— *See* Brunstetter, B. C., 1934, **27,** 27, ab.

Maier, F. X. *See* Demeter, K. J., 1931, **21,** 41, ab.

Main, E. R. *See* Locke, A., 1928, **15,** 35, ab.

Malcolm, W. G. A poisonous substance obtained from meningococcus, 1932, **23,** 98, ab.

Malcolm, W. G. The efficiency of certain germicides in the preservation of biologic products, 1931, **22,** 403

Malleterre, F. Antimeningococcic serum in the joint manifestations of gonorrhea, 1916, **1,** 582, ab.

Mallmann, W. L., and Devereux, E. D. The disinfection of beverage glasses by chlorine preparations, 1935, **29,** 70, ab.

— Bacterial contents of chlorinated swimming pools during periods of use, 1935, **29,** 26, ab.

— Old stock cultures as a source of bacteriophage, 1925, **10,** 59

— and Gallo, F. Studies on the dissociation of the Brucella group, 1932, **23,** 33, ab.

Malloy, A. M. *See* Kahn, R. L., 1930, **19,** 35, ab.

Mallory, F. B., and Medlar, E. M. The etiology of scarlet fever, 1916, **1,** 377, ab.

Maneval, W. E. The staining of flagella of bacteria, with special reference to mordants, 1931, **21,** 313

Manheimer, W. A. Controlling the spread of sputum, 1916, **1,** 579, ab.

Mansfield, H. *See* Hastings, E. G., 1926, **11,** 77, ab.

— *See* Hastings, E. G., 1927, **13,** 65, ab.

Manwaring, W. H., and Coe, H. C. Hepatic bacteriolysins, 1916, **1,** 687, ab.

— — Endothelial opsonins, 1916, **1,** 686, ab.

— and Kusama, Y. Protein absorption by blood corpuscles, 1916, **1,** 687, ab.

— — Specific receptors of fixed tissues, 1916, **1,** 686, ab.

— Meinhard, A. R., and Denhart, H. L. Analysis of the anaphylactic and immune reactions by means of the isolated mammalian heart, 1916, **1,** 687, ab.

— and Oppenheimer, R. Autolysis of anaphylactic and immune tissues, 1916, **1,** 683, ab.

Mapes, C. C. Neisserian proctorrhea, 1916, **1,** 579, ab.

Margolena, L. A., and Hansen, P. A. The Endo medium as a trapping agent and indicator for aldehyde, 1934, **27,** 33, ab.

Marks, H. C. *See* Schmelkes, F. C., 1934, **27,** 36, ab.

Marsh, F. W. *See* Leonard, L. T., 1928, **15,** 195

Marshall, M. S. *See* Orr, P. F., 1926, **11,** 113, ab.

Martin, C. E. *See* Hoffstadt, R. E., 1929, **17,** 42, ab.

Martin, J. F. *See* Gage, G. E., 1916, **1,** 553, ab.

Martin, W. P., and Walker, R. H. Preliminary investigation of the occurrence and distribution of *Azotobacter* in Iowa soils, 1935, **30,** 332, ab.

Martinez, I. G. The complement deviation reaction applied to the diagnosis of moniliasis of the digestive tract, 1916, **1,** 571, ab.

Martley, F. C. *See* Clemenger, F. J., 1916, **1,** 692, ab.

Mason, M. M. A comparison of the maximal growth rates of various bacteria under the optimal conditions, 1935, **29,** 103

— *See* Rahn, O., 1935, **29,** 99

Massengale, O. N. *See* Prickett, P. S., 1930, **19,** 8, ab.

— *See* Prickett, P. S., 1931, **21,** 9, ab.

Mathers, G. The behavior of streptococci of human and bovine origin in the cow's udder, 1916, **1,** 117, ab.

— The etiology of the current epidemic of respiratory infections in Chicago, 1916, **1,** 259, ab.

Matheson, K. J. *See* Frazier, W. C., 1930, **19,** 50, ab.

Matthewman, H. B. Differential staining as a criterion of the viability of bacterial spores, 1927, **14,** 425

Matsuzaki, H. *See* Ito, T., 1916, **1,** 464, ab.

Mauer, J. C. *See* Myers, R. P., 1935, **29,** 7, ab.

May, H. G., and Goodner, K. Cultural and antigenic studies on *Salmonella gallinarum* and *Salmonella pullorum*, 1927, **13**, 129

May, O. E., and Herrick, H. T. Some practical and theoretical aspects of mold metabolism, 1934, **28**, 145

Mayo, C. H. Gallbladder diseases, 1916, **1**, 261, ab.

Meacham, M. R., Hopfield, J. H., and Acree, S. F. Preliminary note on the use of some mixed buffer materials for regulating the hydrogen ion concentrations of culture media and of standard buffer solutions, 1920, **5**, 491

——— The relative effect of phosphate-acetate and of phosphate-phthalate buffer mixtures upon the growth of *Endothia parasitica* on malt extract and corn meal media, 1920, **5**, 305

——— A method of determining the relative toxicity of sodium, potassium, lithium, and other ions toward *Endothia parasitica:* data on sodium chloride, 1920, **5**, 309

— *See* Brightman, C. L., 1920, **5**, 169

Mead, M. W., Jr., and King, C. G. Proteolysis and the selective destruction of amino acids by *Clostridium sporogenes* and *Clostridium histolyticum*, 1929, **17**, 151

Meader, F. M. Method of securing blood serum from convalescent patients, 1929, **17**, 48, ab.

— Sunlight as a disinfectant, 1926, **11**, 82, ab.

Meckler, C. M. *See* Lindsey, G. A., 1932, **23**, 115

Medalia, L. S. "Color standards" for the colorimetric measurement of H-ion concentration pH 1.2 to pH 9.8, 1920, **5**, 441

— Further observations on "color standards" for the colorimetric determination of H-ion concentration, 1922, **7**, 589

— Bailey, K. R., and Atwood, C. A modified Loeffler's blood serum medium useful in the routine health department examination for diphtheria and streptococcus infections, 1931, **21**, 119

Medlar, E. M. *See* Caldwell, D. W., 1934, **27**, 72, ab.

— *See* Mallory, F. B., 1916, **1**, 377, ab.

Megrail, E., and Hoyt, R. N. Epizootic lymphadenitis in the guinea-pig, 1929, **17**, 54, ab.

— *See* Perkins, R. G., 1929, **17**, 49, ab.

Meinhard, A. R. *See* Manwaring, W. H., 1916, **1**, 687, ab.

Melick, C. O. *See* Berry, F., 1916, **1**, 584, ab.

Mellon, R. R. A modification of the Wright-Buchner anaerobic tube, 1919, **4**, 295

— A study of the diphtheroid group of organisms with special reference to their relation to the streptococci. Part I. Characteristics of a peculiar pleomorphic diphtheroid, 1917, **2**, 81

— A study of the diphtheroid group of organisms with special reference to its relation to the streptococci. II. Classification of the diphtheroid group, 1917, **2**, 269

— A study of the diphtheroid group of organisms with special reference to its relation to the streptococci. Part III. Immunological relations, 1917, **2**, 447

— Studies in microbic heredity. XII. Microbic dissociation in vivo as illustrated by a case of subacute septicopyemia, 1927, **13**, 99

— The biologic origin of inagglutinability with freshly isolated typhoid cultures, 1926, **11**, 84, ab.

— A genetic inquiry into the reason for three diverse morphologic types of infecting fungi in blastomycosis hominis, 1926, **11**, 90, ab.

— Phase reversal within the aqueous-lipoidal system of the bacterial cell-wall and its relation to spontaneous agglutinability, 1928, **15**, 13, ab.

Mellon, R. R. Are certain of the ultraviruses, so-called, filterable stages in the life cycle of ordinary bacteria?, 1927, **13**, 28, ab.
— Water supply for a syringe bath, 1919, **4**, 291
— and Caldwell, D. W. Studies in microbic heredity. XI. The genetic origin of *Staphylococcus albus* and *aureus* from common ancestral strains, 1926, **12**, 409
— and Fisher, L. W. New studies on the filtrability of pure cultures of the tubercule group of microörganisms, 1932, **23**, 18, ab.
— and Jost, E. L. Filtration experiments with the granular form of the tubercle bacillus, 1929, **17**, 56, ab.
— Richardson, R. D., and Fisher, L. W. Further studies on the life cycle of the avian tubercle bacillus, 1933, **25**, 45, ab.
— The biology of a new cyclostage (the critical R) of the tubercle Bacillus, 1935, **30**, 654, ab.
— Two unusual strains of diphtheroid bacilli, 1916, **1**, 257, ab.
— A contribution to the bacteriology of a fuso-spirillary organism, with special reference to its life history, 1919, **4**, 505
— Studies in microbic heredity. I. Observations on a primitive form of sexuality (zygo-spore formation) in the colon-typhoid group, 1925, **10**, 481
— Studies in microbic heredity. II. The sexual cycle of *B. coli* in relation to the origin of variants with special reference to Neisser and Massini's *B. coli-mutabile*, 1925, **10**, 579
— Studies in microbic heredity. V. The biogenetic law of Haeckel and the origin of heterogeneity within pure lines of bacteria, 1926, **11**, 203
— Studies in microbic heredity. VI. The infective and taxonomic significance of a newly described ascospore stage for the fungi of blastomycosis, 1926, **11**, 229
— Studies in microbic heredity. VII. Observations on the genetic origin of the several types of fungi found in the lesions of blastomycosis hominis, 1926, **11**, 419
— Studies in microbic heredity. VIII. The infectivity and virulence of a filtrable phase in the life history of *B. fusiformis* and related organisms, 1926, **12**, 279
— von Rashevsky, N., and von Rashevsky, E. The radiation of ultra-violet light—mitogenetic rays, so-called, by bacteria and higher plants, 1929, **17**, 5, ab.
— *See* Koch, R., 1930, **19**, 25, ab.
— *See* Lindegren, C. C., 1933, **25**, 47, ab.
Melman, M. *See* Mishulow, L., 1934, **27**, 103, ab.
Merchant, I. A. A study of the corynebacteria associated with diseases of domestic animals, 1935, **30**, 95
Merlino, C. P. Bartolomeo Bizio's letter to the most excellent priest, Angelo Bellani, concerning the phenomenon of the red-colored polenta, 1924, **9**, 527
Merrill, A. T., and Clark, W. M. Some conditions affecting the production of gelatinase by proteus bacteria, 1928, **15**, 267
Merrill, M. H. Carbohydrate metabolism of organisms of the genus Mycobacterium, 1930, **20**, 235
— Studies on carbon metabolism of organisms of the genus Mycobacterium. II. Utilization of organic compounds in a synthetic medium, 1931, **21**, 361
— Studies on carbon metabolism of organisms of the genus Mycobacterium. III. End products of carbohydrate utilization as determined in synthetic media cultures, 1931, **21**, 375

Mestre, H. A precision photometer for the study of suspensions of bacteria and other microörganisms, 1935, **30**, 335

Metts, F. A. *See* Rhamy, B. W., 1916, **1**, 581, ab.

Meyer, A. Complement-fixation in pulmonary tuberculosis, 1916, **1**, 690, ab.

Meyer, E. M. The use of a three per cent lactose litmus agar plate for the demonstration of *B. coli* in water examination, 1917, **2**, 237

— An aerobic spore-forming bacillus giving gas in lactose broth isolated in routine water examination, 1918, **3**, 9

Meyer, K. F. Studies to diagnose a fatal disease of cattle in the mountainous regions of California, 1916, **1**, 249, ab.

— Traum, J., and Roadhouse, C. L. The *Bacillus enteritidis* as the cause of infectious diarrhea in calves, 1916, **1**, 357, ab.

— *See* Hurwitz, S. H., 1916, **1**, 129, ab.

— *See* Wagner, E., 1925, **10**, 321

— Fugitive wanderings, 1935, **30**, 446, ab.

— Laboratory infections due to *Brucella* in the United States, 1935, **29**, 43, ab.

— and Eddie, B. Avian psittacosis, 1935, **29**, 67, ab.

Michie, H. C., Jr., and Parsons, H. H. Rocky Mountain spotted fever, 1916, **1**, 260

Mickelson, M. N. *See* Sarles, W. B., 1935, **29**, 74, ab.

Middleton, W. S. *See* Clark, P. F., 1929, **17**, 57, ab.

— *See* Evans, J. S., 1916, **1**, 468, ab.

Milas, N. A. *See* Harris, R. S., 1932, **23**, 429

— *See* Proctor, B. E., 1931, **21**, 55, ab.

Miller, C. P., Jr., and Castles, R. The effect of sodium ricinoleate on the gonococcus, 1931, **22**, 339

Miller, C. P., Jr., Hastings, A. B., and Castles, R. The influence of inorganic salts on the multiplication of gonococcus, 1932, **24**, 439

Miller, E. G., Jr. *See* Freeman, R. G., Jr., 1924, **9**, 301

Miller, H. A. A review of the complement fixation test in tuberculosis, 1916, **1**, 688, ab.

Miller, H. R., and Zinsser, H. A method of producing antigen for complement-fixation in tuberculosis, 1916, **1**, 687, ab.

— and Zinsser, H. Complement fixation in tuberculosis, 1916, **1**, 688, ab.

Miller, J. A., and Noble, W. C. The effects of exposure to cold upon experimental infections of the respiratory tract, 1916, **1**, 683, ab.

— *See* Winslow, C.-E. A., 1916, **1**, 365, ab.

— *See* Winslow, C.-E. A., 1916, **1**, 684, ab.

Miller, M. J. *See* Perkins, R. G., 1916, **1**, 707, ab.

— *See* Ruh, H. O., 1916, **1**, 381, ab.

Miller, N. J. *See* Prickett, P. S., 1933, **25**, 61, ab.

Miller, S. B. *See* Dittmar, H. R., 1930, **19**, 203

Mills, H. B., and Sowell, G. A. Pyelocystitis and metastatic abscesses following tonsillitis, 1916, **1**, 582, ab.

Mills, J. H. *See* Falk, I. S., 1928, **15**, 38, ab.

— *See* Falk, I. S., 1928, **15**, 421

— *See* Koser, S. A., 1925, **10**, 25

Mills, R. G., and Dack, G. M. The fate of *Bact. typhosum* and other organisms in a segregated vein and in the general circulation of the normal and immunized rabbit, 1926, **11**, 107, ab.

Minges, G. H. *See* Brown, P. E., 1916, **1**, 677, ab.

Minot, G. R. *See* Sellards, A. W., 1916, **1**, 572, ab.

Mishulow, L., Romano, M., Melman, M., and Kereszturi, C. The utilization of the Bordet-Gengou and Löwenstein's media as substitute for guinea-pig inoculation in detecting tubercle bacilli in sputums, 1934, **27,** 103, ab.

Molnar, N. *See* Reiner-Deutsch, W., 1935, **30,** 444, ab.

Monfort, W. F. Validity of presumptive tests, 1916, **1,** 113, ab.

— *See* Perry, M. C., 1921, **6,** 53

Montgomery, M. *See* Stark, O. K., 1935, **29,** 6, ab.

Moodie, R. L. Mesozoic pathology and bacteriology, 1916, **1,** 384, ab.

Moody, A. M., and Capps, J. A. Notes on grip epidemic in Chicago, 1916, **1,** 582, ab.

Mooney, G., and Winslow, C.-E. A. The metabolic activity of various colon-group organisms at different phases of the culture cycle, 1935, **30,** 427

Mooney, M. G. *See* Walker, H. H., 1934, **27,** 22, ab.

— *See* Walker, H. H., 1934, **27,** 303

Moore, E. E., Fulmer, E. I., and Foster, R. L. A conductivity method for the analysis of mixtures of the volatile acids, 1930, **19,** 5, ab.

Moore, J. J. Immunologic studies on Hodgkins disease, 1916, **1,** 689, ab.

Moore, J. L. *See* Simmonds, W. E., 1916, **1,** 130, ab.

Moore, M. B. *See* Cromwell, H. W., 1931, **21,** 59, ab.

Morcos, Z. New disease in young rabbits, infectious tympanitis, 1932, **23,** 449

— Epizootic hepato-enteritis in guinea pigs, 1933, **25,** 239

Morgan, J. F. The soil solution as an index of the biological changes in the soil, 1916, **1,** 97, ab.

— and Gruzit, O. M. Reaction of the soil solution as an index of biological changes in the soil, 1916, **1,** 97, ab.

Moriwaka, K., and Prescott, S. C. A new fermentation yielding butyl and isopropyl alcohols, 1927, **13,** 58, ab.

Morishima, K.-I. A simple and practical medium for differentiating *B. typhosus*, *B. paratyphosus A.*, *B. paratyphosus*, *B.*, *B. enteritidis*, and *B. coli*, 1918, **3,** 19

— Variations in typhoid bacilli, 1921, **6,** 275

Morishita, T. Further studies on certain aciduric organisms of dental and salivary origin, 1929, **17,** 7, ab.

— Studies on dental caries, with special reference to aciduric organisms associated with this process. I. Isolation and description of organisms, 1929, **18,** 181

Moriwaki, G. The specificity of scarlatinal hemolytic streptococci. With special reference to the formation of rash developing substances, 1929, **18,** 139

Moriyama, Y. *See* Broadhurst, J., 1931, **21,** 305

Morrey, C. B. *See* Hastings, E. G., 1918, **3,** 307

Morris, R. T. Colon bacillus infection of the bladder, 1916, **1,** 381, ab.

Morrison, E. W., and Rettger, L. F. Bacterial spores. I. A study in heat resistance and dormancy, 1930, **20,** 299

— and Rettger, L. F. Bacterial spores. II. A study of bacterial spore germination in relation to environment, 1930, **20,** 313

Morrison, L. E., and Tanner, F. W. Studies on thermophilic bacteria. I. Aerobic thermophilic bacteria from water, 1922, **7,** 343

Morrow, M. B. *See* Williams, O. B., 1928, **16,** 43

Morse, J. L., and Floyd, C. A study of the etiology of chorea, 1916, **1,** 703, ab.

Morse, R. B. Maryland experiences in the disinfection of water supplies, 1916, **1**, 457, ab.
Morton, H. E. *See* Bernstein, A., 1934, **27**, 625
Moser, J. R. *See* Beckwith, T. D., 1932, **24**, 43
Moshage, E. L. *See* Kolmer, J. A., 1916, **1**, 382, ab.
Moyer, H. V. A continuous method of culturing bacteria for chemical study, 1929, **18**, 59
Mucci, L. A. *See* Boak, R. A., 1932, **23**, 106, ab.
Mudd, E. B. H. *See* Mudd, S., 1924, **9**, 151
Mudd, S. The penetration of bacteria through capillary spaces. I. Motility and size as influencing filterability through Berkefeld candles, 1923, **8**, 459
— and Mudd, E. B. H. The penetration of bacteria through capillary spaces. III. Transport through Berkefeld filters by electroendosmotic streaming, 1924, **9**, 151
— and Warren, S. A readily cultivable vibrio, filterable through Berkefeld "V" candles, *Vibrio percolans* (new species), 1923, **8**, 447
— *See* Joffe, E. W., 1933, **25**, 24, ab.
— *See* Warren, S., 1924, **9**, 143
Mudge, C. S. A light switch for the microscope, 1927, **13**, 223
— The effect of sterilization upon sugars in culture media, 1917, **2**, 403
— and Lawler, B. M. The effect of alkali solutions upon the bacteria normally found in unwashed milk bottles, 1928, **15**, 25, ab.
— and Lawler, B. M. Is the statistical method applicable to the bacterial plate count?, 1928, **15**, 207
— — Is the statistical method applicable to the bacterial plant count?, 1928, **15**, 24, ab.
— and Thorwaldson, M. L. Studies on thermophiles in milk, 1930, **19**, 47, ab.
— *See* Ayers, S. H., 1920, **5**, 565
— *See* Ayers, S. H., 1920, **5**, 589
— *See* Ayers, S. H., 1922, **7**, 449
Mueller, J. H. Studies on cultural requirements of bacteria. IV. Quantitative estimation of bacterial growth, 1935, **29**, 383
— Studies on cultural requirements of bacteria. V. The diphtheria bacillus, 1935, **29**, 515
— Studies on cultural requirements of bacteria. VI. The diphtheria bacillus, 1935, **30**, 513
— Studies on cultural requirements of bacteria. I., 1922, **7**, 309
— Studies on cultural requirements of bacteria. II., 1922, **7**, 325
— The virus problem in transplantable tumors, 1927, **13**, 26, ab.
— and Kapnick, I. Studies on cultural requirements of bacteria. VII. Amino acid requirements for the Park-Williams No. 8 strain of diphtheria, 1935, **30**, 525
— and Klise, K. S. Agglutination of hemolytic streptococci, 1932, **23**, 83, ab.
— Klise, K. S., Porter, E. T., and Graybiel, A. Studies on cultural requirements of bacteria. III. The diphtheria bacillus, 1933, **25**, 509
— and Whitman, L. An improved method for the detection of hemolytic streptococcus carriers, 1931, **21**, 219
Mulvania, M. The destructive action of certain bacteria on the virus of tobacco mosaic, 1926, **11**, 98, ab.
— Root inoculation with the virus of tobacco mosaic, 1930, **19**, 23, ab.
— *See* Fred, E. B., 1926, **11**, 323
Munn, L. E., and Hopkins, B. S. Studies on tellurium. The value of some tellurium compounds as disinfectants, 1925, **10**, 79
Munson, J. F. *See* Shanahan, W. T., 1916, **1**, 585, ab.

Murray, E. G. D. A method of titrating dysentery (Shiga) antitoxin, 1933, **25,** 85, ab.

— Some general considerations indicating lines of investigation of the mechanism of meningococcus infection, 1932, **23,** 90, ab.

Murray, T. J. The oxygen requirements of biological soil processes, 1916, **1,** 597

Myers, J. T. The production of hydrogen sulphide by bacteria, 1920, **5,** 231

— *See* LeMar, J. D., 1934, **27,** 49, ab.

Myers, R. P. The effect of hydroxyl ion concentration on the thermal death rate of *Bacterium coli*, 1928, **15,** 341

— and Mauer, J. C. Germicidal properties of water containing minute amounts of silver, 1935, **29,** 7, ab.

N

Nadler, W. H. *See* Irons, E. E., 1916, **1,** 699, ab.

Nagle, N. *See* Kahn, R. L., 1927, **13,** 36, ab.

— *See* Kahn, R. L., 1927, **13,** 37, ab.

Nakagawa, K. The mode of infection in pulmonary distomiasis, 1916, **1,** 465, ab.

Nakajima, H. *See* Wright, W. H., 1929, **17,** 10, ab.

Nammack, C. H. The bacteriology of the recent grip epidemic, 1916, **1,** 261, ab.

Neal, J. B. Treatment of cases of epidemic meningitis, 1916, **1,** 365, ab.

— Laboratory aids in the diagnosis of poliomyelitis, 1916, **1,** 701, ab.

— *See* Olmstead, M. P., 1916, **1,** 566, ab.

— *See* Olmstead, M. P., 1916, **1,** 681, ab.

Neal, O. R., and Walker, R. H. Physiological studies on Rhizobium. IV. Utilization of carbonaceous materials, 1935, **30,** 173

Neave, S. L., and Buswell, A. M. Note on the occurrence of bacteria in oil-well brine samples, 1926, **12,** 133

— *See* Wallace, G. I., 1927, **14,** 377

Needle, H. C. *See* Prescott, S. C., 1931, **21,** 25, ab.

Neill, J. M., Sugg, J. Y., Richardson, L. V., and Fleming, W. L. The use of culture media made from commercial dried yeast as a routine substitute for meat infusion peptone media, 1929, **17,** 329

Nelson, D. H. The isolation and some of the characteristics of a single cell culture of nitrosomonas, 1930, **19,** 10, ab.

Nelson, J. B. The reaction of antisera for *B. actinoides*, 1933, **26,** 321

— The biological characters of *B. actinoides* variety *muris*, 1931, **21,** 183

Nelson, M. E., and Werkman, C. H. Dissimilation of glucose by heterofermentative lactic acid bacteria, 1935, **30,** 547

Nelson, R. Cytological and bacteriological investigations of bean mosaic, 1930, **19,** 22, ab.

Nelson, R. L. Sonne dysentery. A report of 32 cases of dysentery caused by *Eberthella paradysenteriae* Sonne, 1930, **20,** 183

Nelson, V. E. Indol in cheese, 1916, **1,** 361, ab.

Neuberg, C., and Kobel, M. Present status of the problem of sugar fermentation, 1934, **28,** 461

New, G. B. *See* Sanford, A. H., 1916, **1,** 362, ab.

Newton, R. C. Bonime's modification of Koch's treatment of tuberculosis, 1916, **1,** 689, ab.

Nicholls, E. E. A comparison of the incidence and biological characteristics of the hemolytic *Bacillus coli* recovered from the intestinal tract of healthy individuals and patients with ulcerative colitis, 1935, **29,** 35, ab.

Nicholls, E. E. A study of the organisms recovered from filtrates of hemolytic streptococcus cultures, 1935, **30**, 443, ab.

Nichols, H. J. Possible reasons for lack of protection after antityphoid vaccination, 1916, **1**, 366, ab.

Nichols, M. S. Stovall, W. D., 1916, **1**, 576, ab.

Nichols, V. C. *See* Krueger, A. P., 1935, **30**, 401

Nickel, A. C. The bacteriology of chronic prostatitis and the localization in animals of organisms isolated, 1926, **11**, 114, ab.

Nickerson, J. T. R., and Proctor, B. E. Some biochemical changes exhibited in fish muscle stored at different temperatures under normal conditions and under sterile conditions, 1935, **29**, 72, ab.

— — Some chemical changes exhibited in sterile and in contaminated haddock muscle stored at different temperatures, 1935, **30**, 383

— *See* Proctor, B. E., 1935, **30**, 377

— *See* Proctor, B. E., 1935, **29**, 71, ab.

Nicoll, M., Jr., and Luttinger, P. An epidemic of whooping cough treated with pertussis stock vaccine, 1916, **1**, 685, ab.

Nielsen, F. A. *See* Behrens, C. A., 1935, **29**, 60, ab.

Nigg, C. A study of blood groups among the American Indians, 1926, **11**, 105, ab.

— A study of blood groups among Polynesians, 1928, **15**, 42, ab.

Nissen, W. *See* Waksman, S. A., 1932, **23**, 81, ab.

Nobechi, K. Contributions to the knowledge of *Vibrio cholerae*. I. Fermentation of carbohydrates and polyatomic alcohols by *Vibrio cholerae*, 1925, **10**, 197

Noble, A. Effect of preservatives on agglutinating serum, 1930, **19**, 31, ab.

— A rapid method for the macroscopic agglutination test, 1926, **11**, 106, ab.

— A rapid method for the macroscopic agglutination test, 1927, **14**, 287

— *See* Ferry, N. S., 1918, **3**, 193

— *See* Ferry, N. S., 1918, **3**, 499

Noble, R. E., and White, J. L. The relative productivity of various fermentation media as compared with standard lactose broth by the Butterfield-Hoskins method, 1935, **29**, 23, ab.

— *See* Tonney, F. O., 1931, **22**, 433

— *See* Tonney, F. O., 1932, **23**, 473

Noble, W. C., Jr., and Brainard, D. H. A note on the susceptibility of ferrets to the virus of the common cold, 1935, **29**, 407

— *See* Miller, J. A., 1916, **1**, 683, ab.

— *See* Winslow, C.-E. A., 1916, **1**, 365, ab.

— *See* Winslow, C.-E. A., 1916, **1**, 684, ab.

— and Brainard, D. H. Anaerobic bacteria of the nasopharynx, 1928, **15**, 19, ab.

— Fisher, E. A., and Brainard, D. H. Studies of the etiology of the common cold, 1927, **13**, 33, ab.

— and Knacke, F. E. D. The action of *B. diphtheriae* and some related organisms on glucosamine, 1928, **15**, 55

Norman, A. G. The hemicellulose-decomposing bacteria, 1932, **23**, 72, ab.

Normington, R. *See* Wyant, Z. N., 1920, **5**, 553

North, C. E. Bacterial testing versus dairy inspection, 1916, **1**, 566, ab.

Northrup, Z. A simple apparatus for isolating anaerobes, 1916, **1**, 90, ab.

— Modifications in the technic of Dick's plate method for isolating anaerobes, 1919, **4**, 299

— Modification in staining technic, 1916, **1**, 91, ab.

Norton, J. F., and Broom, N. H. Acid-fast bacilli in the blood of tuberculous patients, 1933, **25**, 98, ab.
— — Some agglutination studies with the meningococci, 1930, **19**, 32, ab.
— and Hsu, P. H. The physical chemistry of disinfection, 1916, **1**, 459, ab.
— and Sawyer, M. V. Indol production by bacteria, 1921, **6**, 471
— *See* Conn, H. J., 1921, **6**, 135
Noyes, H. A. Acidity of media, 1916, **1**, 87, ab.
— Media for soil bacteria, 1916, **1**, 93, ab.
— Sterilizing measured amounts of water in the autoclave, 1918, **3**, 537
Nungester, W. J. Independent variation of bacterial properties, 1933, **25**, 49, ab.
— and Jourdonais, L. F. The rôle of mucin in the production of experimental lobar pneumonia in the rat, 1935, **29**, 34

O

Obst, M. M. Bacteria in commercial bottled waters, 1916, **1**, 103, ab., 564, ab.
— Bile compared with lactose bouillon for determining the presence of *B. coli* in water, 1916, **1**, 73
Ockerblad, F. O. A study of the nodule-forming bacteria, 1916, **1**, 100, ab.
Odell, H. R. Comparison of Loeffler's coagulated blood serum and blood serum with the addition of sterile ox gall, 1918, **3**, 189
O'Donnell, A. *See* Sutton, R. L., 1916, **1**, 376, ab.
Oftedal, S. Elective localization in the bronchial musculature of streptococci from the sputum of cases of bronchial asthma, 1916, **1**, 585, ab.
O'Gara, P. T. A bacterial disease of western wheat-grass, *Agropyron smithii*. Occurrence of a new type of bacterial disease in America, 1916, **1**, 705, ab.
Olitsky, P. K., Denver, B. S., and Husk, C. E. The etiology of typhus fever in Mexico, 1916, **1**, 580, ab.
Oliver, W. W. *See* Wherry, W. B., 1916, **1**, 362, ab.
— *See* Wherry, W. B., 1916, **1**, 373, ab.
Olmstead, M. *See* Dawson, M. H., 1935, **29**, 11, ab.
— Grouping of meningococcus strains by means of complement fixation, 1916, **1**, 364, ab.
— DuBois, P. L., Neal, J. B., and Schweitzer, R. A study on the grouping of meningococcus strains 1916, **1**, 566, ab.
— DuBois, P. L., Neal, J. B., and Schweitzer, R. A study of the grouping of meningococcus strains 1916, **1**, 681, ab.
— and Povitzky, O. R. The complement fixation reactions of the Bordet-Gengou bacillus, 1916, **1**, 254, ab.
Olson, N. E. *See* Fay, A. C., 1927, **14**, 363
Olson, O. M. The "delayed negative" Wassermann reaction, 1916, **1**, 572, ab.
Omelianski, V. L. Aroma-producing microörganisms, 1923, **8**, 393
O'Neal, H. E. Dissociation of encapsulated bacteria, 1933, **26**, 521
Opdyke, R. Frontal and maxillary sinusitis and sequelae. Due to *Staphylococcus pyogenes albus*, 1916, **1**, 252, ab.
Oppenheimer, E. H. Studies on vaccinia virus, 1927, **13**, 24, ab.
Oppenheimer, R. *See* Manwaring, W. H., 1916, **1**, 683, ab.
Oppenheimer, S., and Gottlieb, M. J. Pollen therapy in pollinosis, 1916, **1**, 368, ab.
Oram, J. *See* Broadhurst, J., 1932, **23**, 48, ab.
Orcutt, F. S., Shannon, A. M., and Wilson, P. W. Concerning the fixation of nitrogen by germinat-

ing seeds of leguminous plants, 1934, **27**, 55, ab.
Orcutt, M. *See* Jones, F. S., 1932, **23**, 267
— *See* Jones, F. S., 1934, **27**, 91, ab.
Orcutt, M. L. A study of *Bacillus acidophilus* from the digestive tract of calves, 1926, **11**, 115
— Hemolytic reactions of a pathogenic bovine strain of *B. coli*, 1928, **16**, 123
— A study of *Bacillus necrophorus* obtained from cows, 1930, **20**, 343
— A study of enterococci from the digestive tract of calves, 1926, **11**, 129
Orla-Jensen, A. D. *See* Orla-Jensen, S., 1926, **12**, 333
Orla-Jensen, S. The main lines of the natural bacterial system, 1921, **6**, 263
— Orla-Jensen, A. D., and Spur, B. The butter aroma bacteria, 1926, **12**, 333
Orr, J. H., and Reed, G. B. Variation in *Cl. tetani*, 1934, **27**, 48, ab.
— and Reed, G. B. Variation in *Cl. welchii*, 1933, **25**, 96, ab.
— *See* Read, G., 1923, **8**, 103
— *See* Reed, G. B., 1926, **11**, 109, ab.
— *See* Reed, G. B., 1926, **11**, 109, ab.
— *See* Reed, G. B., 1928, **15**, 36, ab.
— *See* Reed, G. B., 1933, **25**, 96, ab.
Orr, P. F., and Marshall, M. S. Studies on scarlet fever toxin, 1926, **11**, 113, ab.
Ørskov, J. Experimental method for the cultivation of microbes in agar cylinders in the peritoneal cavity of animals, 1924, **9**, 427
— Method for the isolation of bacteria in pure culture from single cells and procedure for the direct growth on a solid medium, 1922, **7**, 537
— and Larsen, A. On bacterial variation, 1925, **10**, 473
Osburn, O. L., and Werkman, C. H. The determination of organic acids produced in fermentations, 1933, **25**, 68, ab.
— *See* Werkman, C. H., 1931, **21**, 20, ab.
Ostenberg, Z. *See* Hurwitz, S. H., 1916, **1**, 129, ab.
Osumi, S. *See* Futaki, K., 1916, **1**, 259, ab.
Otani, M. The treatment of tuberculosis with cyanocuprol, 1916, **1**, 700, ab.
Ott, W. O., and Roy, K. A. The treatment of diphtheria carriers with iodized phenol, 1916, **1**, 263, ab.
Owen, H. H. *See* Coleman, M. B., 1930, **19**, 34, ab.
Owen, W. L. A new species of alcohol forming bacterium isolated from the interior of stalks of sugar cane infested with the caneborer *Diatraea saccharalis*, 1916, **1**, 235
— A study of the formation of gum levan from sucrose, 1923, **8**, 421
— and Denson, W. P. The acceleration of the alcoholic fermentation of cane molasses by the use of vegetable carbons and other inert substances, 1929, **17**, 28, ab.

P

Paine, F. S. The destruction of acetylmethyl- carbinol by members of the colon-aerogenes group, 1927, **13**, 269
Paine, S. G. A practical method of culture from a single bacterial cell, 1927, **14**, 441
— and Ramchandani, J. C. An improved method of culture from a single bacterial cell, 1929, **17**, 377
Palacios, G. D. Pathogeny of diabetes and fecal disinfection, 1916, **1**, 377, ab.
Palmer, G. A. *See* Rush, J. E., 1921, **6**, 571
Parfitt, E. H. *See* Spitzer, G., 1935, **29**, 69, ab.

Parfitt, E. H. A study of methods for determining the numbers of yeasts and molds in butter, 1935, **29**, 69, ab.
— and Spitzer, G. The quantitative action of enzymes of seven specific organisms upon the proteins of milk and upon gelatin, 1924, **9**, 123
— *See* Spitzer, G., 1930, **19**, 12, ab.
Park, S. E., Graham, R., Prucha, M. J., and Brannon, J. M. Pasteurization of milk artificially infected with two strains of *Brucella suis*, 1932, **24**, 461
Park, W. H. The production of anti-anterior poliomyelitis serum in the horse and the use of this and convalescent serum in prevention and treatment, 1932, **23**, 101, ab.
— Charles Krumwiede. 1879–1930, 1931, **21**, 141
— and Zingher, A. Diphtheria immunity—natural, active and passive. Its determination by the Schick test, 1916, **1**, 574, ab.
— — Late results in active immunization with diphtheria toxin-antitoxin and with toxin-antitoxin combined with diphtheria bacilli, 1916, **1**, 127, ab.
— *See* Brodie, M., 1935, **29**, 64, ab.
Parker, M. E. The use of the blood agar plate in a large certified milk dairy, 1927, **13**, 61, ab.
Parker, N. J. *See* Caldwell, D. W., 1934, **27**, 72, ab.
Parker, R. R. *See* Davis, G. E., 1933, **25**, 87, ab.
Parr, L. W. The occurrence and significance of so-called atypical reactions in the colon-aerogenes group, 1934, **27**, 42, ab.
Parsons, E. I. *See* Winslow, C.-E. A., 1920, **5**, 145
Parsons, H. H. *See* Michie, H. C., Jr., 1916, **1**, 260, ab.
Parsons, L. B., and Douglas, W. F. The influence of sodium chloride on the colorimetric determination of pH, 1926, **12**, 263
— — The influence of sodium chloride on the colorimetric determination of pH., 1926, **11**, 80, ab.
— and Sturges, W. S. The magnitude of the error due to ammonia and its salts in the Van Slyke amino nitrogen procedure as commonly applied in studies of bacterial metabolism, 1926, **11**, 165
— — The possibilities of the conductivity method as applied to studies of bacterial metabolism, 1926, **11**, 177
— — Conductivity as applied to studies of bacterial metabolism. II. Parallelism between ammonia and conductivity in nutrient gelatin cultures of the putrefactive anaerobes, 1926, **12**, 267
— — Conductivity as applied to studies of bacterial metabolism. II. Parallelism between ammonia and conductivity in nutrient gelatin cultures of putrefactive anaerobes, 1926, **11**, 82, ab.
— and Sturges, W. S. Quantitative aspects of the metabolism of anaerobes. I. Proteolysis by *Clostridium putrefaciens* compared with that of other anaerobes, 1927, **14**, 181
— — Quantitative aspects of the metabolism of anaerobes. II. The relation between volatile acid and ammonia production during metabolism of *Clostridium putrefaciens*, 1927, **14**, 193
— — Quantitative aspects of the metabolism of anaerobes. III. The volatile acids produced by *C. putrefaciens* in cooked meat medium, 1927, **14**, 201
— — Quantitative aspects of the protein metabolism of *C. putrefaciens* (McBryde), 1927, **13**, 3, ab.
— *See* Sturges, W. S., 1926, **11**, 189
— *See* Sturges, W. S., 1929, **17**, 14, ab.

Parsons, L. B. *See* Sturges, W. S., 1929, **18,** 157

Partansky, A. M., and Henry, B. S. Anaerobic bacteria capable of fermenting sulfite waste liquor, 1935, **30,** 559

Paschall, A. H. *See* Batchelor, H. W., 1935, **29,** 82, ab.

Patrick, R., Werkman, C. H., and Hixon, R. M. Evidence of xylanase production by an actinomyces, 1930, **19,** 16, ab.

Paul, J. R. Pneumococcus variants. I. Intermediate forms and the influence of environment in their production during in-vitro S to R and R to S transitions, 1934, **28,** 45

— Pneumococcus variants. II. Dissociants of R pneumococci and their relation to *Streptococcus viridans*, 1934, **28,** 69

Paulson, M., and Brown, J. H. The appearances produced in blood agar by bacteria of the *Bacterium coli* group, 1932, **23,** 38, ab.

Pearce, R. M. *See* Kolmer, J. A., 1916, **1,** 370, ab.

Pease, D. *See* Broadhurst, J., 1930, **19,** 24, ab.

— *See* Broadhurst, J., 1931, **21,** 9, ab.

— *See* Broadhurst, J., 1931, **21,** 305

Pease, H. D. Some observations on causes of high bacterial counts in milk, 1916, **1,** 567, ab.

Pease, M. C. *See* Pisek, G. R., 1916, **1,** 383, ab.

Pederson, C. S. A study of *Lactobacillus plantarum* (Orla Jensen) Bergey, 1935, **29,** 73, ab.

— Bacterial spoilage of a thousand island dressing, 1930, **20,** 99

— Floral changes in the fermentation of sauerkraut, 1931, **21,** 36, ab.

— The processing of tomato juice, 1933, **25,** 73, ab.

— Organisms causing spoilage of tomato products, 1929, **17,** 30, ab.

— and Breed, R. S. The preservative action in catsup of salt, sugar, benzoate and acid, 1927, **13,** 59, ab.

— — The fermentation of glucose by bacteria of the genus serratia, 1928, **15,** 10, ab.

— — The fermentation of glucose by organisms of the genus serratia, 1928, **16,** 163

— and Kelly, C. D. The quality of commercial sauerkraut, 1932, **23,** 62, ab.

— and Yale, M. W. The effect of the temperature of incubation upon the agar plate count of milk, 1934, **27,** 70, ab.

— *See* Hucker, G. J., 1931, **21,** 3, ab.

— *See* Yale, M. W., 1933, **25,** 66, ab.

Perkins, R. G. A new apparatus for obtaining simultaneous cultures of any desired age for comparative study, 1918, **3,** 23

— Public health laboratories, 1916, **1,** 578, ab.

— Heeren, R., Megrail, E., and Grossman, A. B. Seasonal variation in antitoxin content of human blood, 1929, **17,** 49, ab.

— Miller, M. J., and Rush, H. O. Studies on diphtheria in Cleveland, I. Diphtheria carriers, 1916, **1,** 707, ab.

— *See* Ruh, H. O., 1916, **1,** 381, ab.

Perry, C. A., and Hajna, A. A. A modified Eijkman medium, 1933, **26,** 419

Perry, C. A. *See* Hajna, A. A., 1935, **30,** 479

Perry, M. C., and Monfort, W. F. Some atypical colon-aerogenes forms isolated from natural waters, 1921, **6,** 53

Peters, A. *See* Chapman, G. H., 1934, **28,** 343

Peterson, E. *See* Hall, I. C., 1923, **8,** 319

— *See* Hall, I. C., 1924, **9,** 211

— *See* Hall, I. C., 1924, **9,** 201

Peterson, W. H., Fred, E. B., and Stiles, H. R. Biochemical aspects of the acetone butyl alcohol fermentation of corn meal, 1929, **17**, 27, ab.
— and Johnson, M. J. Fermentation of acetoacetic acid and pyruvic acid by the acetone-butanol organism, *Cl. acetobutylicum*, 1933, **25**, 69, ab.
— McClung, L. S., and Bird, H. R. Some bacteriological and chemical aspects of A. I. V. silage, 1935, **29**, 84, ab.
— Pruess, L. M., and Fred, E. B. The proteolytic action of certain lactic acid bacteria, 1928, **15**, 165
— *See* Allgeier, R. J., 1929, **17**, 79
— *See* Allgeier, R. J., 1930, **19**, 18, ab.
— *See* Anderson, J. A., 1927, **13**, 54, ab.
— *See* Foote, M., 1930, **19**, 17, ab.
— *See* Fred, E. B., 1922, **7**, 257
— *See* Fred, E. B., 1923, **8**, 277
— *See* Fred, E. B., 1925, **10**, 63
— *See* Fred, E. B., 1925, **10**, 97
— *See* Fred, E. B., 1926, **11**, 323
— *See* Georgi, C. E., 1933, **25**, 53, ab.
— *See* Hopkins, E. W., 1928, **15**, 22, ab.
— *See* Hopkins, E. W., 1929, **17**, 22, ab.
— *See* Hopkins, E. W., 1930, **19**, 9, ab.
— *See* Stiles, H. R., 1926, **11**, 79, ab.
— *See* Stiles, H. R., 1926, **12**, 427
— *See* Tatum, E. L., 1932, **23**, 73, ab.
— *See* Tatum, E. L., 1933, **25**, 26, ab.
— *See* Tatum, E. L., 1934, **27**, 207
— *See* Wilson, P. W., 1930, **19**, 231
— *See* Johnson, M. J., 1935, **29**, 90, ab.
— *See* Langlykke, A. F., 1935, **29**, 333
— *See* Tatum, E. L., 1935, **29**, 87, ab.
— *See* Tatum, E. L., 1935, **29**, 563
Petrilli, A. *See* Bayne-Jones, S., 1932, **23**, 45, ab.
— *See* Bayne-Jones, S., 1933, **25**, 261
Petroff, S. A. Microbic dissociation of the tubercle bacillus, 1928, **15**, 40, ab.
— Branch, A., and Steenken, W., Jr. A study of *Bacillus Calmette-Guerin* (B.C.G.). 1. Biological characteristics, cultural "dissociation" and animal experimentation, 1929, **17**, 58, ab.
— and Steenken, W., Jr. Biological studies of the acid-fast organism, 1931, **21**, 11, ab.
— and Stewart, F. W. Immunological studies in tuberculosis. IV. Concerning the resistance to infection of animals sensitized with killed tubercle bacilli, 1926, **11**, 104, ab.
Pettibone, D. F., Bogart, F. B., and Clark, P. F. The bacteriology of the bubble fountain, 1916, **1**, 471
Phelps, E. B. Predicts Federal control of stream pollution, 1916, **1**, 125, ab.
Philbrick, B. G. The variation of the phenol coefficients of coal tar disinfectants with the use of different test organisms, 1929, **17**, 45, ab.
— The rôle of starch in the cracking of chocolate creams, 1926, **12**, 275
— The rôle of starch in the cracking of chocolate creams, 1926, **11**, 99, ab.
Philip, C. B. *See* Davis, G. E., 1933, **25**, 87, ab.
Phillips, J. F. *See* Speakman, H. B., 1924, **9**, 183
Phillips, M., Goss, M. J., Beavens, E. A., and James, L. H. A study of the microbiological decomposition of the constituents of alfalfa hay and its application to spontaneous heating, 1935, **29**, 83, ab.
Phipps, C. *Filaria sanguinis hominis*, 1916, **1**, 266, ab.
Pickens, E. M. *See* Poelma, L. J., 1932, **23**, 112, ab.
Pierce, H. B. The effect of yeast on ammonia and indol production by bacteria in culture and in feces suspension, 1931, **21**, 225
Pilot, I. The distribution of fusiform bacilli and spirochetes in tissue, 1926, **11**, 114, ab.

Pilot, I. Mucoid encapsulated streptococci with particular reference to the differentiation of *Streptococcus epidemicus*, Mather's streptococcus of epidemic influenza and *Pneumococcus* (*Streptococcus*) *mucosus*, 1933, **25**, 88, ab.

Pinner, M. Atypical acid-fast organisms. II. Some observations on filtration experiments, 1933, **25**, 576

Pisek, G. R., and Pease, M. C. A preliminary report on pneumonia in children, with special reference to its epidemiology, 1916, **1**, 383, ab.

Pittman, M. The interrelation of the amount of v-factor and the amount of air necessary for growth of *Hemophilus influenzae* type b in certain media, 1935, **30**, 149

— and Falk, I. S. Studies on respiratory diseases. XXXIV. Some relations between extracts, filtrates, and virulence of pneumococci, 1930, **19**, 327.

— and Southwick, M. A. Studies on respiratory diseases. XXXV. The pathology of pneumococcus infections in mice, 1930, **19**, 363

Pitz, W. Effect of elemental sulphur and of calcium sulphate on certain of the higher and lower forms of plant life, 1916, **1**, 132, ab.

Pizarro, O. R. The relation of surface tension to bacterial development, 1927, **13**, 387.

Plaisance, G. P., and Hammer, B. W. The mannitol-producing organisms in silage, 1921, **6**, 431.

Plastridge, W. N. Agglutinin absorption studies on the genus Brucella, 1932, **23**, 111, ab.

— and McAlpine, J. G. Types of *Br. abortus* isolated from human, bovine, porcine and equine sources, 1931, **21**, 52, ab.

— and Rettger, L. F. The influence of carbon dioxide on diphtheria toxin production and preservation, 1929, **17**, 52, ab.

— — Studies on carbon dioxide. IV. The influence of gaseous environment on growth and toxin production of *C. diphtheriae*, 1929, **18**, 1

— — Studies on carbon dioxide. V. The mechanism responsible for the preserving action of carbon dioxide on diphtheria toxin, 1929, **18**, 101

— Spaulding, E. R., and Brigham, G. D. Observations on organisms associated with chronic bovine mastitis, 1934, **27**, 74, ab.

— and Weirether, F. J. A comparison of methods of detecting streptococci in freshly drawn milk samples, 1935, **30**, 212, ab.

Plummer, H. A serological study of haemolytic streptococci, 1935, **30**, 5

— The fermentation of sorbitol and trehalose by haemolytic streptococci from various sources, 1934, **27**, 465

Poe, C. F. Growth of anaerobes in crystal violet bile media, 1930, **19**, 117

— and Fehlmann, H. A. The action of hexylresorcinol on bacteria in certain food products, 1933, **25**, 521

— and Field, J. T. The fermentation of polyhydric alcohols by the colon-aerogenes groups of bacteria, 1931, **21**, 11, ab.

— Field, J. T., Tobey, S., and Witt, N. F. Study of lactose peptone bile media, with the addition of various triphenylmethane dyes, for the detection of members of the colon group. I. In water analysis, 1928, **15**, 9, ab.

— Hale, W. H., and Poe, F. E. Study of lactose peptone bile media, with the addition of various triphenylmethane dyes, for the detection of members of the colon group. II. In milk analysis. 1928, **15**, 9, ab.

— *See* Georgia, F. R., 1931, **22**, 349

— *See* Georgia, F. R., 1932, **23**, 135

Poe, F. E. *See* Poe, C. F., 1928, **15**, 9, ab.

Poelma, L. J., and Pickens, E. M. *Brucella abortus* in human tonsils, 1932, **23,** 112, ab.
Pohlman, G. G. *See* Walker, R. H., 1930, **19,** 39, ab.
Ponomarewa, I. W. *See* Kritschewski, I. L., 1934, **28,** 111
Poole, A. K. *See* Welch, H. 1934, **28,** 523
Poor, D. W. The action of antiseptics in Pasteur antirabic emulsions, 1916, **1,** 685, ab.
— and Fitzpatrick, C. P. The destructive effects of light and drying and other living-room conditions upon diphtheria bacilli, streptococci, and staphylococci, 1916, **1,** 703, ab.
Porter, E. F. *See* Mueller, J. H., 1933, **25,** 509.
Porter, W. H. Immunity, natural and acquired, 1916, **1,** 568, ab.
Povitzky, O. R., and Worth, E. Agglutination in pertussis, 1916, **1,** 127, ab.
— *See* Olmstead, M. P., 1916, **1,** 254, ab.
Powell, H. M. Further studies on the meningococcus with reference to the Shwartzman reaction, 1932, **23,** 98, ab.
— The production and preservation of diphtheria toxoid, 1933, **25,** 84, ab.
— Clowes, G. H. A., and Jamieson, W. A. Further studies on the immunology of the pneumococcus, 1929, **17,** 49, ab.
— and Jamieson, W. A. Merthiolate as a preservative for biological products, 1931, **21,** 55, ab.
— and Jamieson, W. A. Native versus denatured bacterial antigens, 1935, **29,** 48, ab.
— *See* Waldo, J. H., 1931, **21,** 323
Pratt, J. S. A study of the biology of *B. fusiformis*, 1927, **13,** 35, ab.
— and Gaillard, M. S. B. Streptococci isolated from excised tonsils and post-tonsillectomy blood culture. II. 1932, **23,** 90, ab.
— *See* Krumwiede, C., Jr., 1916. **1,** 129, ab.
— *See* Krumwiede, C., Jr., 1916, **1,** 684, ab.
Prescott, S. C. Some bacteriological aspects of dehydration, 1920, **5,** 109
— and Bates, P. K. On the relation of refrigeration temperatures to the rate of growth of certain specific types of bacteria causing food spoilage, 1931, **21,** 25, ab.
— — The reduction of the number of organisms in water as a result of freezing in domestic refrigerators, 1931, **21,** 26, ab.
— Bates, P. K., and Needle, H. C. The effect of discontinuous refrigeration on bacteria in foods, 1931, **21,** 25, ab.
— and Doelger, W. E. P. Studies on the bacteriology of rubber latex, 1927, **13,** 67, ab.
— Hale, J. F., and White, G. E. Observations on the bacteriology of slimy beef, 1931, **21,** 26, ab.
— and Riley, P. L. The specific resistance of bacteria to soap solutions, 1927, **13,** 66, ab.
— *See* Bates, P. K., 1927, **13,** 67, ab.
— *See* Morikawa, K., 1927, **13,** 58, ab.
Pribram, E., and Schmitz, H. The influence of radium treatment upon the bacterial flora of the female genitalia, 1932, **23,** 107, ab.
— Demonstration of a mold isolated from the hair of children affected with ringworm of the scalp, 1930, **19,** 31, ab.
— Studies on fungi of the genera Candida, Cryptococcus, and Mycoderma isolated from the skin of an epidemic perlèche, 1930, **19,** 31, ab.
— Suggestions for the classification of the genera Micrococcus, Sarcina, Neisseria, and Streptococcus, 1933 **25,** 41, ab.
— A contribution to the classification of microörganisms treating the orders Eubacteriales and Actinomycetales, 1929, **17,** 8, ab.

Pribram, E. A contribution to the classification of microörganisms. I. Introduction; plants, animals and microörganisms, 1922, **18**, 361.
— A contribution to the classification of microörganisms. II. Classification of the class Schizomycetes based upon their biological relationship to other plants and animals, 1929, **18**, 366
— Pathogenicity and classification of microörganisms, 1931, **22**, 427
— and Kotler, L. Studies on the micrometabolism of yeast cells, 1934, **27**, 24, ab.
— and Kotler, L. Studies on the micrometabolism of yeast cells of different species. II. The influence of KCl and $CaCl_2$ on the glucose esterification, 1935, **29**, 21, ab.
Price, W. A. The dental aspect of the relation of endamoeba to pyorrhea alveolaris, 1916, **1**, 332, ab.
Prickett, P. S. Thermophilic microorganisms from imported canned shalots (onions), 1931, **21**, 29, ab.
— Thermophilic organisms in milk, 1928, **15**, 28, ab.
— Thermophilic spore-formers associated with milk, 1929, **17**, 36, ab.
— and Breed, R. S. Thermophilic organisms found in culture media, 1928, **16**, 247
— and Massengale, O. N. Ergosterol content of certain species of Mycobacterium and the effect of ergosterol (activated and unactivated) on their growth (final report), 1931, **21**, 9, ab.
— Massengale, O. N., and Cox, W. M., Jr. Preliminary report on the ergosterol content of and the effect of ergosterol (activated and unactivated) on growth of *Mycobacterium tuberculosis*, 1930, **19**, 8, ab.
— Miller, N. J., and McDonald, F. G. The lysozyme content of milk from various species and its relation to the fecal flora of their nurslings, 1933, **25**, 61, ab.
— *See* Breed, R. S., 1929, **17**, 37, ab.
Pritchett, I. W. *See* Bull, C. G., 1916, **1**, 568, ab.
Proctor, B. E. An investigation of the antiseptic and germicidal efficiency of pyridium on various organisms, 1931, **21**, 54, ab.
Proctor, B. E., and Milas, N. A. The bactericidal efficiency of certain organic peroxides, 1931, **21**, 55, ab.
— and Nickerson, J. T. R. An investigation of the sterility of fish tissues, 1935, **30**, 377
— — An investigation of the sterility of fish tissues, 1935, **29**, 71, ab.
— *See* Nickerson, J. T. R., 1935, **30**, 383
— *See* Nickerson, J. T. R., 1935, **29**, 72, ab.
— The microbiology of the upper air. II. 1935, **29**, 80, ab.
— The microbiology of the upper air. II, 1935, **30**, 363.
Prouty, C. C. Studies on the leucocyte content of milk drawn from *Brucella abortus* infected udders, 1934, **27**, 293.
Prucha, M. J. Variation in plate counts under research conditions, 1916, **1**, 92, ab.
— and Brannon, J. M. Viability of *Bacterium typhosum* in ice cream, 1926, **11**, 27
— and Tanner, F. W. Time saving bacteriological apparatus, 1920, **5**, 559
— and Weeter, H. M. Influence of conditions in the barn upon the germ content of milk, 1916, **1**, 109, ab.
— *See* Conn, H. J., 1918, **3**, 115
— *See* Conn, H. J., 1919, **4**, 107
— *See* Conn, H. J., 1920, **5**, 127
— *See* Conn, H. J., 1920, **5**, 315
— *See* Park, S. E., 1932, **24**, 461.
Pruess, L. M. *See* Peterson, W. H., 1928, **15**, 165

Pryer, R. W. An example of bacterial mutation, 1926, **11**, 89, ab.
Pulley, H. C., and Greaves, J. D. An application of the autocatalytic growth curve to microbial metabolism, 1932, **24**, 145
Punkari, L., and Henrici, A. T. A study of variation in a chromogenic asporogenous yeast, 1933, **26**, 125
— and Henrici, A. T. Further studies on spontaneous variations of *Torula pulcherrima*, 1935, **29**, 259
Purvis, E. R. *See* Waksman, S. A., 1932, **23**, 76, ab.
Pyle, N. J. The bacteriophage in relation to *Salmonella pullora* infection in the domestic fowl, 1926, **12**, 245

Q

Quick, A. J., and Kahn, M. C. The fermentation of glycuronic acid by certain bacteria, 1929, **18**, 133
Quigley, J. J. *See* Wadsworth, A., 1935, **29**, 44, ab.
— *See* Wadsworth, A., 1933, **25**, 82, ab.
Quirk, A. J. A five-fold technic for producing the filterable form of *Bacillus phytophthorous*, 1932, **23**, 29, ab.
— The correlation of animal and plant bacterial behavior and imposed culture medium environment, 1934, **27**, 47, ab.

R

Rabinowitz, G. Studies on bacteriophage. I. Relation of bacteriophage and other lytic agents to negative stool cultures. Study of two cases, 1924, **28**, 221
— Studies on bacteriophage. II. Comparison of action of lytic agents and bacteriophages upon pyocyaneus cultures, 1934, **28**, 237
Race, J. Bacterial counts in water examination, 1916, **1**, 564, ab.
— The use of ammonia in the chlorination of water, 1916, **1**, 458, ab.
— Some aspects of chlorination, 1916, **1**, 458, ab.
— Some aspects of chlorination, 1916, **1**, 680, ab.
Rackemann, F. M. *See* Longcope, W. T., 1916, **1**, 461, ab.
Rahe, A. H. The classification of the aciduric bacteria, 1918, **3**, 407
Rahn, O. Changes in the endpoint of fermentation by very large seeding, 1929, **17**, 28, ab.
— The fermentometer, 1929, **18**, 199
— The decreasing rate of fermentation, 1929, **18**, 207
— The formula for the fermenting capacity of a single cell, 1930, **19**, 383
— The disagreement in mitogenetic experiments, a problem in bacterial physiology, 1934, **28**, 153
Rahn, O., and Barnes, M. N. On the lethal radiation from the human body, 1933, **25**, 28, ab.
— — Experimental comparison of the different definitions of death, 1932, **23**, 46, ab.
— and Boysen, H. H. The distribution of bacteria in butter, 1928, **15**, 30, ab.
— and Ferguson, A. J. Mitogenetic radiation as the cause of the influence of the number of organisms upon the lag period, 1933, **25**, 28, ab.
— and Mason, M. M. A protractor for computing the growth rate of bacteria, 1935, **29**, 99
— and Tuthill, J. B. The significance of the "induction effect" in mitogenetic radiation, 1933, **25**, 27, ab.
— *See* Hegarty, C. P., 1934, **28**, 21
— *See* Kelly, C. D., 1932, **23**, 147
Rake, G. W. *See* Webster, L. T., 1933, **25**, 75, ab.
Rakieten, M. L. A variant obtained directly from pneumococcus type II, 1930, **20**, 1

Rakieten, M. L. The adaptation of staphylococcus bacteriophage to an artificially produced anti-staphylococcus bacteriophagic serum, 1934, **27**, 50, ab.
— and Rettger, L. F. A simple modification of the brilliant green method of isolating *Bacterium typhosum* from feces, 1926, **11**, 103, ab.
Ramchandani, J. C. *See* Paine, S. G., 1929, **17**, 377
Rand, F. V. Erwin Frink Smith. 1854–1927, 1928, **15**, 1
— and Enlows, E. M. A. Transmission and control of bacterial wilt of cucurbits, 1916, **1**, 577, ab.
Randall, S. B. *See* Foster, L. F., 1921, **6**, 143
Raney, M. E., and Kopeloff, N. Dissociation and filtration studies with *L. acidophilus*, 1934, **27**, 45, ab.
Raney, M. E. *See* Kopeloff, N., 1933, **25**, 99, ab.
Ransom, H. H. Effects of refrigeration upon the larvae of *Trichinella spiralis*, 1916, **1**, 123, ab.
Raper, K. *See* Thom, C., 1932, **23**, 80, ab.
Rappaport, B. The use of kaolin to remove diphtheria bacilli from the nose and throat, 1916, **1**, 382, ab.
— *See* Dick, G. R., 1916, **1**, 464, ab.
— *See* Weaver, G. B., 1916, **1**, 573, ab.
Rappaport, B. Z., and Kaplan, B. Generalized torula infection in man, 1926, **11**, 109, ab.
Ravenel, M. P. Present views in respect of modes and periods of infection in tuberculosis, 1916, **1**, 257, ab.
Ravitch, M. L. Focal infection in relation to certain dermatoses, 1916, **1**, 695, ab.
Rayburn, C. H., Werkman, C. H., and Hixon, R. M. An apparatus for increasing the amount of inoculum without diluting the medium, 1930, **19**, 7, ab.
Reading, C. S. *See* Jones, L. R., 1916, **1**, 705, ab.
Rector, F. L. Scientific methods of control in the mineral water industry, 1916, **1**, 102, ab.
— A chromogenic bacillus, 1916, **1**, 86, ab.
Reddish, G. F. Method of testing antiseptics, 1928, **15**, 14, ab.
— *Clostridium putrificum*. III. A comparison of strains obtained from collections in this country and abroad, 1924, **9**, 321
— Phenol coefficient tests by the hygienic laboratory and department of agriculture methods, 1930, **19**, 37, ab.
— and Rettger, L. F. *Clostridium putrificum* (*B. putrificus* Bienstock), a distinct species, 1922, **7**, 505
— — *Clostridium putrificum*. II. Morphological, cultural, and biochemical study, 1923, **8**, 375
— — A morphological, cultural, and biochemical study of representative spore-forming anaerobic bacteria, 1924, **9**, 13
— and Wales, H. The antiseptic action of U. S. P. and N. F. ointments, 1929, **17**, 44, ab.
— *See* Brewer, C. M., 1929, **17**, 44, ab.
— *See* Rettger, L. F., 1924, **9**, 327
— *See* Sturges, W. S., 1926, **11**, 37
Reed, C. A. L. The *Bacillus epilepticus*, 1916, **1**, 582, ab.
Reed, G., and MacLeod, D. J. The motility of bacteria as effected by hydrogen ion concentrations, 1924, **9**, 119
— and Orr, J. H. The influence of H ion concentration upon structure. I. *H. influenzae*, 1923, **8**, 103
— Dissociation of tubercle bacilli, particularly B.C.G., 1932, **23**, 32, ab.
— A binocular microscope arranged for the study of colonies of bacteria, 1922, **7**, 123
— A hypothetical view of bacterial variation, 1933, **25**, 580
— Dissociation of *Mycobacterium leprae*, 1932, **24**, 357

Reed, G. Dissociation of *Myco. leprae*, 1931, **21**, 12, ab.
— and Orr, J. H. Pernicious anaemia-like blood changes accompanying *B. welchii* infections in rabbits, 1926, **11**, 109, ab.
— and Orr, J. H. Influence of *B. welchii* toxin on erythrocytes in vivo and in vitro, 1926, **11**, 109, ab.
— — The action of haematoxins upon oxygenated and reduced blood cells, 1928, **15**, 36, ab.
— and Rice, C. E. The behaviour of acid-fast bacteria in oil and water systems, 1931, **22**, 239
— — The influence of iron on the pigmentation of acid-fast bacteria, 1929, **17**, 407
— — The action of iron and citrate in synthetic media for tubercle bacilli, 1928, **16**, 97
— — and Orr, J. H. Variation in tubercle bacilli in pulmonary tuberculosis, 1933, **25**, 96, ab.
— *See* Gibbons, N. E., 1930, **19**, 73
— *See* Orr, J. H., 1933, **25**, 96, ab.
— *See* Orr, J. H., 1934, **27**, 48, ab.
Reed, M. V., and Genung, E. F. The effect of certain tri-phenyl methane dyes on *Staphylococcus aureus* and *Bacterium coli communior*, 1934, **27**, 29, ab.
Reeves, J. R. An improved method of obtaining surface colonies of anaerobic bacteria, 1933, **26**, 471
Reichel, J. Experiments to determine the relative value of trikresol and carbolic acid in the preservation of hog cholera serum, 1916, **1**, 359, ab.
— *See* Roos, C., 1934, **27**, 99, ab.
— *See* Roos, C., 1934, **27**, 100, ab.
Reid, J. J., and Baldwin, I. L. The effect of the oxidation-reduction character of the medium on initiation of yeast growth, 1934, **27**, 29, ab.
— Fred, E. B., and Baldwin, I. L. The effects of storage on Rhizobia, 1935, **29**, 75, ab.
— and Sarles, W. B. Growth and longevity of Rhizobia on agar containing various energy sources, 1935, **30**, 651, ab.
— *See* Colingsworth, D. R., 1935, **30**, 653, ab.
— *See* Sarles, W. B., 1935, **30**, 651, ab.
Reid, R. D. A study of the bactericidal bacteriolytic or inhibitory substance produced by some molds and some factors which influence its production, 1933, **25**, 31, ab.
— Some observations on the ability of a mold, or its metabolic products, to inhibit bacterial growth, 1934, **27**, 28, ab.
— Some properties of a bacterial-inhibitory substance produced by a mold, 1935, **29**, 215
— Chromogens and history, 1935, **30**, 654, ab.
Reiner-Deutsch, W., and Molnar, N. The increase in bactericidal value of vapors from irradiated essential oils, 1935, **30**, 444, ab.
Reiter, D. *See* Jordan, E. O., 1934, **27**, 165
Reith, A. F. Bacteria in the muscular tissues and blood of apparently normal animals, 1926, **12**, 367
Rennebaum, E. H. A chemical-biological study of *Escherichia coli* and three of its rough variants, 1935, **30**, 625
Rettger, L. F. The science of bacteriology and its relation to other sciences, 1918, **3**, 103
— Berman, N., and Sturges, W. S. Further studies on bacterial nutrition: the utilization of proteid and non-proteid nitrogen, 1916, **1**, 15
— and Gillespie, H. B. Bacterial variation: an inquiry into the underlying principles governing the cell morphology of *Bacillus megatherium*, 1935, **29**, 13, ab.
— — Bacterial variation: an inquiry into the underlying principles governing the cell morphology of *Bacillus megatherium*, 1935, **30**, 213

Rettger, L. F. and Gillespie, H. B. Bacterial variation, with special reference to pleomorphism and filtrability, 1933, **26**, 289
— — Bacterial variation, 1932, **23**, 15, ab.
— Hull, T. G., and Sturges, W. S. Feeding experiments with *Bacterium pullorum*. The toxicity of infected eggs, 1916, **1**, 455, ab.
— — — Feeding experiments with *Bacterium pullorum*. The toxicity of infected eggs, 1916, **1**, 120, ab.
— Reddish, G. F., and McAlpine, J. G. The fate of baker's yeast in the intestine of man and of the white rat, 1924, **9**, 327
— Sturges, W. S., and Berman, N. Studies in bacterial nutrition. The utilization of proteid and non-proteid nitrogen, 1916, **1**, 121, ab.
— *See* Berman, N., 1916, **1**, 537
— *See* Berman, N., 1918, **3**, 367
— *See* Berman, N., 1918, **3**, 389
— *See* Bradley, L. A., 1927, **13**, 321
— *See* Buchanan, R. E., 1928, **16**, 387
— *See* Cameron, R., 1934, **27**, 86, ab.
— *See* Casman, E. P., 1931, **21**, 27, ab.
— *See* Casman, E. P., 1933, **26**, 77
— *See* Chen, C. C., 1920, **5**, 253
— *See* Cowles, P. B., 1931, **21**, 167
— *See* Edwards, P. R., 1927, **13**, 73
— *See* Flynn, C. S., 1934, **28**, 1
— *See* Grant, C. W., 1933, **25**, 42, ab.
— *See* Hartsell, S. E., 1934, **27**, 39, ab.
— *See* Hartsell, S. E., 1934, **27**, 497
— *See* Hull, T. G., 1916, **1**, 120, ab.
— *See* Hull, T. G., 1917, **2**, 47
Rettger, L. *See* Hull, T. G., 1917, **2**, 47
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— *See* James, L. H., 1928, **15**, 117
— *See* Kulp, W. L., 1924, **9**, 357
— *See* Morrison, E. W., 1930, **20**, 299
— *See* Morrison, E. W., 1930, **20**, 313
— *See* Plastridge, W. N., 1929, **17**, 52, ab.
— *See* Plastridge, W. N., 1929, **18**, 1
— *See* Plastridge, W. N., 1929, **18**, 101
— *See* Rakieten, M. L., 1926, **11**, 103, ab.
— *See* Reddish, G. F., 1922, **7**, 505
— *See* Reddish, G. F., 1923, **8**, 375
— *See* Reddish, G. F., 1924, **9**, 13
— *See* Robinson, H. C., 1918, **3**, 209
— *See* Slanetz, C. A., 1927, **13**, 10, ab.
— *See* Slanetz, C. A., 1928, **15**, 297
— *See* Slanetz, L. W., 1933, **25**, 43, ab.
— *See* Slanetz, L. W., 1933, **26**, 599
— *See* Sturges, W. S., Jr., 1919, **4**, 171
— *See* Sturges, W. S., 1922, **7**, 551
— *See* Valley, G., 1926, **11**, 78, ab.
— *See* Valley, G., 1927, **14**, 101
— *See* Weinstein, L., 1931, **21**, 4, ab.
— *See* Weinstein, L., 1932, **23**, 74, ab.
— *See* Weinstein, L., 1932, **24**, 1
— *See* Weinstein, L., 1933, **25**, 201
— *See* Weiss, J. E., 1934, **27**, 39, ab.
— *See* Weiss, J. E., 1934, **28**, 501
— See Wenner, J. J., 1919, **4**, 331
— *See* Weyer, E. R., 1926, **11**, 91, ab.
— *See* Weyer, E. R., 1927, **14**, 399
Reuszer, H. W. *See* Waksman, S. A., 1932, **23**, 42, ab.
Reyniers, J. A. Studies in micrurgical technique, 1933, **26**, 251
— A new and simplified micrurgical apparatus especially adapted to single cell isolation, 1932, **23**, 183
Reynolds, H., and Werkman, C. H. Dissimilation of glycerol by intermediate bacteria of the colon-aerogenes group, 1935, **30**, 652, ab.
Rhamy, B. W., and Metts, F. A. Flagellate protozoa as an etiologic factor of dysenteric diarrhea, 1916, **1**, 581, ab.
Rhees, H. S. Spirella sp.? isolated from the guinea pig, 1932, **23**, 211
— *See* Bayne-Jones, S., 1929, **17**, 3, ab.
— *See* Bayne-Jones, S., 1929, **17**, 123
Rhein, M. L. Deep seated alveolar infections, 1916, **1**, 362, ab.
Rhines, C. The persistence of avian tubercle bacilli in soil and in association with soil micro-organisms, 1935, **29**, 299
— The relationship of soil protozoa to tubercle bacilli, 1935, **29**, 369

Rhines, C. The persistence of tubercle bacilli in soil and the effect of various soil microörganisms on tubercle bacilli, 1934, **27**, 56, ab.
— *See* Lindsey, G. A., 1932, **24**, 489
Rice, C. E. *See* Reed, G. B., 1928, **16**, 97
— *See* Reed, G. B., 1929, **17**, 407
— *See* Reed, G. B., 1931, **22**, 239
— *See* Reed, G. B., 1933, **25**, 96
Rice, J. L. *See* Laubach, C. A., 1916, **1**, 513
Ricen, L., Sears, H. J., and Downing, L. M. The duodenal flora in achlorhydria, 1928, **15**, 46, ab.
Richards, J. H. Bacteriologic studies in chronic arthritis and chorea, 1920, **5**, 511
Richards, O. W. The effect of deuterium on the growth of yeast, 1934, **28**, 289
— and Jahn, T. L. A photoelectric nephelometer for estimating the population density of microörganisms, 1933, **26**, 385
Richardson, H. B. *See* Loebel, R. O., 1933, **26**, 139
— *See* Loebel, R. O., 1933, **26**, 167
Richardson, L. V. *See* Neill, J. M., 1929, **17**, 329
Richardson, R. D. Filtrable forms of the Rosenow streptococcus from anterior poliomyelitis, 1932, **23**, 29, ab.
— *See* Mellon, R. R., 1933, **25**, 45, ab.
Richert, P. H. *See* Cruess, W. V., 1929, **17**, 363
Richmond, T. E. The evolution of *B. radiobacter* from mixed cultures of *B.* and *Pseudomanas radicicola*, 1927, **13**, 43, ab.
Ricker, A. J. *See* Sagen, H. E., 1929, **17**, 22, ab.
Rickert, U. G. *See* Crowley, M. C., 1935, **30**, 395
Riker, A. J. *See* Berge, T. O., 1935, **30**, 651, ab.
— *See* Hendrickson, A. A., 1924, **28**, 597
— *See* Sagen, H. E., 1934, **28**, 571
Riley, C. V. *See* Wilson, M. A., 1932, **23**, 95, ab.
Riley, P. L. *See* Prescott, S. C., 1927, **13**, 66, ab.
Risley, S. D. Common affections of the eye, 1916, **1**, 257, ab.
Ritter, N. The value of presumptive tests for *Bacillus coli* based on the routine use of lactose bile and lactose broth, 1919, **4**, 609
Rivas, D., and Buckley, A. C. The bacteriological aspect of the Abderhalden test, 1916, **1**, 683, ab.
Rivers, T. M. *Bacillus hemoglobinophilus canis* (Friedberger). (*Hemophilus canis emend.*), 1922, **7**, 579
— Filterable viruses. A critical review, 1927, **14**, 217
— Filterable viruses—a critical review, 1927, **13**, 16, ab.
— and Schwentker, F. F. Louping ill in man, 1934, **27**, 85, ab.
Rivkin, H. *See* Krasnow, F., 1926, **12**, 385
Rohdhouse, C. L. *See* Meyer, K. F., 1916, **1**, 357, ab.
Roberts, D. J. *See* Clark, P. F., 1930, **20**, 213
Roberts, E., and Card, L. E. Genetic studies on resistance to bacterial infection, 1927, **13**, 31, ab.
Roberts, J. L. A new species of the genus *Bacillus* exhibiting mobile colonies on the surface of nutrient agar, 1935, **29**, 229
Robertson, A. H. Influence of age of culture on the heat resistance of non-spore-forming bacteria, 1928, **15**, 27, ab.
— Averaging bacterial counts, 1932, **23**, 123
— Some non-spore-forming thermoduric bacteria from pasteurized milk, 1928, **15**, 26, ab.
— *See* Schacht, F. L., 1931, **21**, 22, ab.
— *See* Wall, W. A., 1922, **7**, 307
Robertson, W. E. Intravenous serobacterin therapeutics, 1916, **1**, 570, ab.
Robey, L. *See* Branham, S. E., 1928, **15**, 36, ab.
Robinson, B. Treatment of rheumatic fever, 1916, **1**, 254, ab.

Robinson, B. Newer practical points in the treatment of typhoid fever, 1916, **1**, 252, ab.
Robinson, E. S. Antigenic relationships of *Bact. typhosum*. I. Agglutination, 1923, **8**, 533
— Antigenic relationships of *Bact. typhosum*. II. Complement-fixation, 1924, **9**, 409
— Bacteriological characteristics of *Streptococcus epidemicus* isolated during a septic sore throat epidemic, 1929, **17**, 53, ab.
Robinson, G. H. Antigenic properties of autolysed bacteria, 1916, **1**, 115, ab.
— and Taylor, F. A. The effect of urine on hemolytic streptococci, 1931, **21**, 49, ab.
Robinson, H. C., and Rettger, L. F. Studies on the use of brilliant green and a modified Endo's medium in the isolation of *Bacillus typhosus* from feces, 1916, **1**, 707, ab.
— — The growth of bacteria in protein-free enzyme-and acid-digestion products, 1918, **3**, 209
Rockwell, G. E. The detoxification of pollen antigens, 1933, **25**, 100, ab.
— and Van Kirk, H. C. Oral heterophile immunization, 1935, **29**, 47, ab.
Roe, A. F. Dissociation of *Cl. welchii*, 1934, **27**, 46, ab.
Rogers, L. A: The American type culture collection, 1932, **23**, 193
— The American type culture collection, 1934, **27**, 486
— The growth of bacteria in a continuous flow of broth, 1930, **19**, 7, ab.
— The occurrence of different types of the colon-aerogenes group in water, 1918, **3**, 313
— The type of colon bacillus occurring in surface waters, 1916, **1**, 82, ab.
— The constancy of essential characters in *Lactobacillus acidophilus*, 1934, **27**, 41, ab.
— Fermented milks, 1916, **1**, 125, ab.
— The control of mold on the surface of cheese, 1932, **23**, 62, ab.
— What constitutes efficiency in research?, 1923, **8**, 197
— The inhibiting effect of *Streptococcus lactis* on *Lactobacillus bulgaricus*, 1928, **16**, 321
— The inhibiting effect of *St. lactis* on *Lactobacillus bulgaricus*, 1928, **15**, 26, ab.
— Clark, W. M., and Evans, A. C. Colon bacteria and streptococci and their significance in milk, 1916, **1**, 567, ab.
— — and Lubs, H. A. The characteristics of bacteria of the colon type occurring in human feces, 1916, **1**, 82, ab.
— — — The characteristics of bacteria of the colon type occurring in human feces, 1918, **3**, 231
— and Greenback, G. R. The intermittent growth of bacterial cultures, 1930, **19**, 181
— — The rate of growth of a colony of bacteria, 1929, **17**, 2, ab.
— and Whittier, E. O. Limiting factors in the lactic fermentation, 1927, **13**, 10, ab.
— — Limiting factors in the lactic fermentation, 1928, **16**, 211
— — The growth of bacteria in a continuous flow of broth, 1930, **20**, 127
— — The continuous lactic fermentation of whey, 1931, **21**, 37, ab.
— *See* Curran, H. R., 1933, **25**, 595
— *See* Curran, H. R., 1932, **23**, 39, ab.
— *See* Winslow, C.-E. A., 1917, **2**, 505
— *See* Winslow, C.-E. A., 1920, **5**, 191
Rogers, O. F., and Benet, G. Bacteriological work at the American ambulance, 1916, **1**, 381, ab.
Rohner, M. *See* Sears, H. J., 1933, **25**, 50, ab.
Rolleston, J. D. Diphtheria in the first year of life, 1916, **1**, 697, ab.
Romano, M. *See* Mishulow, L., 1934, **27**, 103, ab.

Romans, I. B. *See* Schmelkes, F. C., 1934, **27**, 36, ab.

Roos, C. On the cultural characteristics of *Lactobacillus acidophilus*, 1927, **13**, 4, ab.

Roos, C. G. A. A culture medium for maintaining stock cultures of the meningococcus, 1916, **1**, 67

— A culture medium for maintaining stock cultures of the meningococcus, 1916, **1**, 88, ab.

Roos, C., Reichel, J., and Clark, J. Biological characters of the G and M variants of a hemolytic streptococcus, 1934, **27**, 99, ab.

— — and Wood, J. E. A toxic filtrate obtained from *Hemophilus influenzae*, 1934, **27**, 100, ab.

Rose, E. J. *See* Beckwith, T. D., 1930, **20**, 151

Rosebury, T. Acid production and tolerance of Lactobacilli from dental caries and other sources as measured by the glass electrode, 1932, **24**, 321

— Linton, R. W., and Buchbinder, L. A comparative study of dental aciduric organisms and *Lactobacillus acidophilus*, 1929, **18**, 395

Rosenau, M. J. Serendipity, 1935, **29**, 91

— and Havens, L. C. Experiments with poliomyelitis in the rabbit, 1916, **1**, 465, ab.

Rosenberg, M. L. *See* Krasnow, F., 1926, **12**, 385

Rosenberger, R. C., and Bentley, D. J. Meningitis, 1916, **1**, 586, ab.

Rosenow, E. C. Elective localization of bacteria in diseases of the nervous system, 1916, **1**, 700, ab.

— Properties of a toxin produced by an organism isolated in periodic ophthalmia in the horse, 1928, **15**, 38, ab.

— Further studies on the poliomyelitis precipitin reaction, 1926, **11**, 111, ab.

— The precipitin reaction in the diagnosis of scarlet fever and allied hemolytic streptococcus infections, 1926, **11**, 112, ab.

— A new method of staining bacteria and its application to a study of streptococci and the viruses of poliomyelitis and encephalitis, 1935, **29**, 40, ab.

— Studies on experimental poliomyelitis and encephalitis, 1935, **30**, 329, ab.

— Cataphoretic velocity and virulence of streptococci isolated from throats of humans, from raw milk, flies and water during epidemics of the common cold, 1933, **25**, 89, ab.

— Studies on immunologic specificity of streptococci isolated from various diseases of man, 1928, **15**, 38, ab.

— Streptococci in the lesions of experimental poliomyelitis in monkeys, 1930, **19**, 27, ab.

— Streptococci in the spinal fluid of experimental poliomyelitis in monkeys, 1930, **19**, 27, ab.

— and Davis, C. H. The bacteriology and experimental production of ovaritis, 1916, **1**, 584, ab.

— and Dunlap, S. I. An epidemic of appendicitis and parotitis probably due to streptococci contained in dairy products, 1916, **1**, 585, ab.

Rosenstein, C., and Levin, I., assisted by Levin, H. The bactericidal and antiseptic action of preservatives frequently used in biological products and the effect of these preservatives on the potencies of the products, 1935, **29**, 6, ab.

Ross, M. A. *See* Fraser, F. H., 1932, **23**, 84, ab.

Roth, G. B. Method for the intravenous injection of guinea-pigs, 1921, **6**, 249

Rothberg, W. *See* Winslow, C.-E. A., 1919, **4**, 429

— *See* Winslow, C.-E. A., 1920, **5**, 145

Round, L. A. Frederic Poole Gorham. 1871–1933, 1933, **26**, 431

Round, L. A. Normal fermentstion of sauerkraut, 1916, **1**, 108, ab.
— *See* LeFevre, E., 1919, **4**, 177
Rous, P., and Jones, F. S. A method of obtaining suspensions of living cells from the fixed tissues, and for the plating out of individual cells, 1916, **1**, 256, ab.
— — The protection of pathogenic microörganisms by living tissue cells, 1916, **1**, 466, ab.
Roy, K. A. *See* Ott, W. O., 1916, **1**, 263, ab.
Ruchhoft, C. C. A glucose iron bismuth sulphite medium for quantitative estimation of *E. typhi* in water, sewage and sewage sludges, 1935, **29**, 25, ab.
— Coulter, E. W., Adams, C. L., and Sotier, A. L. The disappearance of the coli-aerogenes group in natural purification processes as determined by direct plate counts, 1933, **25**, 143
— Kallas, J. G., Chinn, B., and Coulter, E. W. Coli-aerogenes differentiation in water analysis, 1931, **21**, 407
— — — — Coli-aerogenes differentiation in water analysis. II. The biochemical differential tests and their interpretation, 1931, **22**, 125
— Kallas, J. G., and Edwards, G. P. Studies of bacterial population during sludge digestion, 1930, **19**, 269
Ruckensteiner, E. *See* McDonald, J. F., 1927, **13**, 255
Rucker, J. B., Jr. So-called Grippe, 1916, **1**, 262, ab.
Rudis-Jicinsky, J. Relapsing fever in Serbia, 1916, **1**, 380, ab.
Rudolfs, W., and Ziemba, J. V. The efficiency of chlorine in sewage disinfection as affected by certain environmental factors, 1934, **27**, 419
— *See* Heukelekian, H., 1929, **17**, 247
Ruehl, W. H. *See* Clark, P. F., 1919, **4**, 615
Ruehle, G. L. A. The number of bacteria in the air of cow stables, 1916, **1**, 112, ab.
— The enzymic content of bacterial spores, 1923, **8**, 487
Ruh, H. O., Miller, M. J., and Perkins, R. G. Studies on diphtheria. II. The treatment of diphtheria carriers by tonsillectomy, 1916, **1**, 381, ab.
Rumreich, A. The typhus-Rocky Mountain spotted fever group in the United States, 1932, **23**, 104, ab.
Rupp, P. *See* Ayers, S. H., 1918, **3**, 433
— *See* Ayers, S. H., 1920, **5**, 89
— *See* Ayers, S. H., 1920, **5**, 589
— *See* Frazier, W. C., 1928, **15**, 29, ab.
— *See* Frazier, W. C., 1928, **16**, 57
— *See* Frazier, W. C., 1928, **16**, 65
— *See* Frazier, W. C., 1928, **16**, 187
— *See* Frazier, W. C., 1928, **16**, 231
— *See* Frazier, W. C., 1931, **21**, 263
Rush, H. O. *See* Perkins, R. G., 1916, **1**, 707, ab.
Rush, J. E., and Palmer, G. A. On decreasing the exposure necessary for the gelatin determination, 1921, **6**, 571
Ruyle, E. H., and Tanner, F. W. The microbiology of canned meat products, 1934, **27**, 64, ab.
Rymer, M. R. *See* Hall, I. C., 1929, **17**, 15, ab.

S

Sackett, W. G. A bacterial disease of the Wragg cherry. Preliminary note, 1917, **2**, 79
Sadler, W. *See* Harrison, F. C., 1929, **17**, 29, ab.
Sagen, H. E., Riker, A. J., and Baldwin, I. L. Studies on certain physiological characters of *Phytomonas tumefaciens*, *Phytomonas rhizogenes*, and *Bacillus radiobacter*. Part I, 1934, **28**, 571
— Wright, W. H., and Ricker, A. J. The cultural differentiation of *B. radiobacter* (Beij.) and closely related organisms, 1929, **17**, 22, ab.

Sagen, H. E. *See* Hastings, E. G., 1933, **25,** 39, ab.
Saliba, J. The antiseptic action of ether in peritoneal infections, 1916, **1,** 567, ab.
Salinger, M. H. *See* Torrey, J. C., 1930, **20,** 85
Salle, A. J. A system for the bacteriological examination of water, 1930, **20,** 381
Sanborn, J. R. Physiological studies of accessory and stimulating factors in certain media, 1926, **12,** 1
— Physiological studies of association, 1926, **12,** 343
— Physiological studies of cellulose fermentation, 1928, **16,** 315
— The China blue-aurin-cellulose medium for the physiological study of cellulose destroyers, 1927, **14,** 395
— The China blue-aurin-cellulose medium for the physiological investigation of cellulose fermentation, 1928, **15,** 33, ab.
— Essential food substances in soil, 1927, **13,** 113
— Certain relationships of marine bacteria to the decomposition of fish, 1930, **19,** 375
— Marine bacteria commonly found on fresh fish, 1932, **23,** 349
— Development and control of microorganisms in a pulp and paper mill system, 1933, **26,** 373
— Development and control of microorganisms in pulp and paper mill systems, 1933, **25,** 70, ab.
— The formation of pulp and paper mill slimes by microörganisms, 1932, **23,** 70, ab.
— The utilization of slime-forming microörganisms, 1934, **27,** 61, ab.
— and Hamilton, W. B. The influence of *Azotobacter chroococcum* upon the physiological activities of cellulose destroyers, 1929, **18,** 169
Sanders, G. P. *See* Burkey, L. A., 1932, **23,** 61, ab.
— *See* Frazier, W. C., 1934, **27,** 539
Sandhoff, A. *See* Skinner, C. E., 1935, **29,** 79, ab.
Sandholzer, L. A., and Tittsler, R. P. The bacteriostatic effect of indol and skatol, 1934, **27,** 28, ab.
— *See* Tittsler, R. P., 1934, **27,** 42, ab.
— *See* Tittsler, R. P., 1935, **29,** 15, ab.
— *See* Tittsler, 1935, **29,** 20, ab.
— *See* Tittsler, R. P., 1935, **29,** 349
— *See* Tittsler, R. P., 1935, **29,** 363
Sandman, E. A. *See* Thomas, J. B., 1916, **1,** 565, ab.
Sanford, A. H., and New, G. B. The relation of amoebiasis to Pyorrhea Alveolaris, 1916, **1,** 362, ab.
Sanjiyan, D. H. *See* Winslow, C.-E. A., 1924, **9,** 513
Sarles, W. B., and Hammer, B. W. Observations on *Bacillus coagulans*, 1932, **23,** 301
Sarles, W. B., and Hammer, B. W. Species of Escherichia-aerobacter organisms responsible for some defects in dairy products, 1933, **25,** 461
— — Species of Escherichia-aerobacter organisms responsible for some defects in dairy products, 1933, **25,** 62, ab.
— McCaffrey, J. C., and Mickelson, M. N. Studies on the classification and differentiation of the Rhizobia, 1935, **29,** 74, ab.
— and Reid, J. J. Growth stimulants for certain Rhizobia, 1935, **30,** 651, ab.
— *See* Reid, J. J., 1935, **30,** 651, ab.
— *See* Wright, W. H., 1930, **19,** 39, ab.
Sattler, S. D. *See* Kahn, R. L., 1935, **29,** 50, ab.
Sauer, L. W. *See* Hoffman, W. H., 1916, **1,** 583, ab.
Saunders, F. *See* Koser, S. A., 1933, **25,** 32, ab.
— *See* Koser, S. A., 1933, **26,** 475
— *See* Koser, S. A., 1932, **24,** 267
— *See* Koser, S. A., 1935, **29,** 17, ab.
Saville, C. M. Hartford (Conn.) waterworks notes, 1916, **1,** 251, ab.

Sawyer, W. A., and Whitman, L. Specificity of the protection test in yellow fever, 1933, **27**, 75, ab.

Sawyer, M. V. *See* Norton, J. F., 1921, **6**, 471

Schacht, F. L., and Robertson, A. H. Observed variations in bacterial counts on the same plate, 1931, **21**, 22, ab.

Schaffer, J. M., and Tilley, F. W. Further investigations of the relation between the chemical constitution and the germicidal activity of alcohols and phenols, 1927, **14**, 259

— *See* Tilley, F. W., 1926, **12**, 303

— *See* Tilley, F. W., 1928, **16**, 279

Schaeffer, M. *See* Kramer, S. D., 1934, **27**, 85, ab.

Schamberg, J. F. *See* Strickler, A., 1916, **1**, 462, ab.

Scheppegrell, W. The cause, treatment, and prevention of hay fever, 1916, **1**, 684, ab.

Scherago, M. *See* Williams, W. L., 1933, **25**, 39, ab.

Schindler, J. A. *See* Clark, P. F., 1930, **19**, 20, ab.

— *See* Clark, P. F., 1930, **20**, 213

Schlesinger, M. J. *See* Bronfenbrenner, J., 1920, **5**, 79

Schlingman, A. S., and Haines, A. W. Further cultural characteristics differentiating *B. chauvoei* from other anaerobes, 1925, **10**, 449

Schmelkes, F. C., and Horning, E. S. Bactericidal action of azochloramid (n-n-dichloroazodicarbonamidine), 1935, **29**, 323

— Marks, H. S., Romans, I. B., Horning, E. S., and Guiteras, A. F. Azochloramid, a new selective bactericidal chlorine compound, 1934, **27**, 36, ab.

Schmidt, C. F., Jr. The formation of fatty acids by *Aspergillus niger*, 1935, **30**, 445, ab.

— Determination of carbohydrates in bacteriological culture media, 1931, **22**, 31

Schmidt, L. E. *See* Warden, C. C., 1916, **1**, 571, ab.

Schmitz, H. *See* Pribram, E., 1932, **23**, 107, ab.

Schneider, S. The microscopic examination of finger nail deposits, 1916, **1**, 578, ab.

Schöbl, O. Experimental cholera-carriers, 1916, **1**, 698, ab.

Schoening, H. W. Recent research on foot-and-mouth disease, with special reference to the work of the American commission, 1927, **13**, 21, ab.

Schopmeyer, H., and Fulmer, E. I. The production of yeast-growth stimulants by the molds. I. *Aspergillus niger*, *Trichoderma lignorum*, and *Aspergillus clavatus*, 1931, **22**, 23

Schultz, E. W. The antigenic properties of the ultramicroscopic viruses, 1930, **19**, 20, ab.

— *See* Clifton, C. E., 1931, **22**, 7

Schwarze, H. R. *See* Graham, R., 1921, **6**, 69

Schwarzkopf, H. *See* Kahn, M. C., 1933, **25**, 157

Schweitzer, R. *See* Olmstead, M. P., 1916, **1**, 566, ab.

— *See* Olmstead, M. P., 1916, **1**, 681, ab.

Schwentker, F. F. *See* Rivers, T. M., 1934, **27**, 85, ab.

Scott, A. L. *See* Hall, I. C., 1931, **22**, 375

Scott, J. P. Aggressins. An outline of the development of the theory and notes on the use of these products, 1931, **22**, 323

— A method of increasing the virulence of cultures of *Clostridium chauvei* by the use of ferric salts, 1926, **11**, 108, ab.

— Studies on certain characteristics of *Clostridium chauvei* and *Clostridium edematis*, 1925, **10**, 265

— A simple mineral mixture agar for the cultivation of *Pasteurella bovisep-tica*, 1930, **20**, 9

— and Brandly, C. A. The use of reduced iron for the cultivation of anaerobic organisms, 1933, **26**, 1

Scudder, S. A. Crystal formation in bacterial cultures, 1926, **11**, 90, ab.
— The precipitation of magnesium ammonium phosphate crystals during the growth of bacteria in media containing nitrogenous substances, 1928, **16**, 157
— and Belding, D. L. *Cladothrix* isolated from the genito-urinary tract, 1926, **11**, 102, ab.
Sears, H. J. Studies in the carbohydrate metabolism of *Ps. aeruginosa* (*B. pyocyaneus*), 1928, **15**, 11, ab.
— Creatinine production by *B. coli* and *B. typhi*, 1917, **2**, 187
— and Black, N. The bactericidal properties of ultra-violet irradiated petrolatum, 1934, **27**, 453
— and Case, L. I. Some observations on the efficiency of the present standard agar for the estimation of bacteria in milk, 1918, **3**, 531
— and Gourley, M. F. Studies in the carbohydrate metabolism of *Ps. aeruginosa* (*B. pyocyaneus*), 1928, **15**, 357
— and Rohner, M. A variable proteus-like organism fermenting carbohydrates without gas formation, 1933, **25**, 50, ab.
— *See* Ricen, L., 1928, **15**, 46, ab.
Sears, O. H., and Clark, F. M. Non-reciprocal interchangeability of the Wood's clover and garden bean nodule bacteria, 1929, **17**, 20, ab.
— and Carroll, W. R. Cross inoculation studies with cow pea and soy bean nodule bacteria, 1927, **13**, 55, ab.
Seastone, C. V. Capsules in young cultures of *Streptococcus hemolyticus*, 1934, **28**, 481
Sedgwick, W. T. The genesis of a new science,—bacteriology, 1916, **1**, 1
Seibert, F. B. The relationship of the potency and the antigenicity of the tuberculin protein to its molecular size, 1935, **29**, 31, ab.
Seidman, L. R. *See* Hill, J. H., 1927, **13**, 6, ab.
— *See* Hill, J. H., 1929, **17**, 205
— *See* Hill, J. H., 1934, **27**, 87, ab.
Sellards, A. W., and Minot, G. R. The antagonistic action of negative sera upon the Wassermann reaction, 1916, **1**, 572, ab.
— Bacterial cultures of human spleens removed by surgical operation, 1916, **1**, 589, ab.
Semmes, M. F. *See* Larkum, N. W., 1930, **19**, 213
Senseman, C. E. An apparatus for the control of composition and rate of flow of gas mixtures through culture solutions, 1934, **27**, 62, ab.
Shanahan, W. T., Munson, J. F., and Shaw, A. L. Syphilis in epilepsy, 1916, **1**, 585, ab.
Shannon, A. M. *See* Orcutt, F. S., 1934, **27**, 55, ab.
Sharp, P. F., and Whitaker, R. The relation of the hydrogen ion concentration of egg white to its germicidal action, 1927, **14**, 17
— *See* Stark, C. N., 1927, **13**, 59, ab.
Shaughnessy, H. J., and Falk, I. S. The effects of some electrolytes on the buffering capacity of *Bacterium coli*, 1924, **9**, 559
— and Winslow, C.-E. A. The diffusion products of bacterial cells as influenced by the presence of various electrolytes, 1927, **14**, 69
— — The effect of bacterial cells upon the chemical composition of the surrounding menstruum as influenced by the presence of various electrolytes, 1927, **13**, 8, ab.
Shaw, A. L. *See* Shanahan, W. T., 1916, **1**, 585, ab.
Shaw, E. B. *See* Singer, C., 1935, **29**, 44, ab.
Shaw, F. W. The Ostwald viscosimeter for the determination of the liquefaction of gelatin by bacteria, 1924, **9**, 315
— *See* Levine, M., 1924, **9**, 225
Shaw, M. *See* Brown, J. H., 1926, **11**, 110, ab.
— *See* Sickles, G. M., 1933, **25**, 99, ab.
— *See* Sickles, G. M., 1934, **27**, 106, ab.

Shaw, M. *See* Sickles, G. M., 1934, **28,** 415
Sherman, H. *See* DeWitt, L. M., 1916, **1,** 567, ab.
Sherman, J. M. The advantages of a carbohydrate medium in the routine bacterial examination of milk, 1916, **1,** 481
— The production of catalase by an anaerobic organism, 1926, **11,** 417
— The cause of eyes and characteristic flavor in Emmental or Swiss cheese, 1921, **6,** 379
— A contribution to the bacteriology of silage, 1916, **1,** 445
— Studies on soil protozoa and their relation to the bacterial flora. I, 1916, **1,** 35
— Studies on soil protozoa and their relation to the bacterial flora. II, 1916, **1,** 165
— Studies on soil protozoa and their relation to the bacterial flora, 1916, **1,** 98, ab.
— The gas production of *Streptococcus kefir*, 1921, **6,** 127
— and Albus, W. R. Some characters which differentiate the lactic-acid streptococcus from streptococci of the pyogenes type occurring in milk, 1918, **3,** 153
— — The function of lag in bacterial cultures, 1924, **9,** 303
— — Physiological youth in bacteria, 1923, **8,** 127
— and Cameron, G. M. Rate of growth and viability in *Bacterium coli*, 1934, **27,** 23, ab.
— — Lethal environmental factors within the natural range of growth, 1934, **27,** 341
— and Holm, G. E. Salt effects in bacterial growth. II. The growth of *Bact. coli* in relation to H-ion concentration, 1922, **7,** 465
— — and Albus, W. R. Salt effects in bacterial growth. III. Salt effects in relation to the lag period and velocity of growth, 1922, **7,** 583
— and Stark, C. N. The quantitative and qualitative distribution of lactobacilli in milk, 1927, **13,** 60, ab.
— — and Stark, P. W. Destruction of Botulinum toxin by milk bacteria, 1928, **15,** 35, ab.
— — — The influence of diphtheria toxin on the growth of certain bacteria, 1927, **13,** 45, ab.
— and Stark, P. Streptococci which grow at high temperatures, 1931, **22,** 275
— *See* Holm, G. E., 1921, **6,** 511
— *See* Stark, C. N., 1928, **15,** 18, ab.
— *See* Wahby, A. M., 1933, **25,** 60, ab.
— *See* Stark, P., 1935, **30,** 639
— *See* Cameron, G. M., 1935, **30,** 647
Sherwood, N. P. Anaphylaxis. Studies V. Allergic responses of the embryonic chicken heart, 1927, **13,** 38, ab.
— and Downs, C. M. Anaphylaxis. Studies VI. Passive sensitization of turtles and guinea pigs using immune serum from chickens and rabbits, 1927, **13,** 39, ab.
— and Dunmire, F. The effect of urea on living cells, 1928, **15,** 42, ab.
— and Stoland, O. O. Further studies on canine anaphylaxis, 1930, **19,** 28, ab.
Shillinger, J. E. *See* Green, R. G., 1929, **17,** 54, ab.
Shimer, W. Diphtheria diagnosis by means of blood serum containing potassium tellurate, 1916, **1,** 111, ab.
Shively, H. L. Tuberculin therapy, 1916, **1,** 251, ab.
Shonle, H. A. *See* Waldo, J. H., 1931, **21,** 323
Shope, R. E. A change in the contagious character of a strain of swine influenza, 1934, **27,** 82, ab.
Shorr, E. *See* Loebel, R. O., 1933, **26,** 139
— *See* Loebel, R. O., 1933, **26,** 167
Shostrom, O. E. *See* Fellers, C. R., 1924, **9,** 235

Shoub, H. L. A comparison of the Ziehl-Neelsen and Schulte-Tigges methods of staining tubercle bacilli, 1923, **8**, 121

Shoup, C. S. *See* Hill, S. E., 1929, **18**, 95

Shternov, V. A. *See* Klarmann, E., 1929, **17**, 423

Shunk, I. V. Comparative studies of presumptive test media for the coli-aerogenes group of bacteria, 1935, **29**, 163

— A modification of Loeffler's flagella stain, 1920, **5**, 181

— Notes on the flagellation of the nodule bacteria of Leguminosae, 1921, **6**, 239

— *See* Wolf, F. A., 1921, **6**, 325

Shutt, D. B. Contaminated water as a source of surface flavor in pasteurized creamery butter, 1929, **17**, 39, ab.

Shwachman, H. *See* Horwood, M. P., 1934, **27**, 66, ab.

— *See* Cohen, B., 1935, **29**, 54, ab.

Shwartzman, G. The effect of specific sera upon the phenomenon of local skin reactivity to *B. typhosus* culture filtrate, 1929, **17**, 43, ab.

— Duration of local skin reactivity induced by bacterial filtrates, 1935, **29**, 30, ab.

— Variations in neutralizability of meningococcus toxins, as measured by the phenomenon of local skin reactivity, 1932, **23**, 95, ab.

— The phenomenon of local skin reactivity to various bacterial culture filtrates. A review, 1931, **21**, 56, ab.

Sickles, G. M. Comparison of different strains of typical and atypical pneumococci and streptococci, 1932, **23**, 86, ab.

— and Shaw, M. A systematic study of microörganisms which decompose the specific carbohydrates of the pneumococcus, 1934, **28**, 415

— — A systematic study of microörganisms which decompose the specific carbohydrates of the pneumococcus, 1934, **27**, 106, ab.

— — Organisms which decompose the specific carbohydrates of pneumococcus types II and III, 1933, **25**, 99, ab.

— *See* Wadsworth, A., 1933, **25**, 80, ab.

Sickles, G. R. *See* Wadsworth, A., 1933, **25**, 82, ab.

Sickles, G. R. *See* Wadsworth, A., 1935, **29**, 44, ab.

Sickles, T. N. *See* Gibbs, W. M., 1926, **11**, 393

Simington, R. M. *See* Wright, W. H., 1927, **13**, 54, ab.

Simon, C. E. The mouse as a test object for the herpetic virus, 1927, **13**, 26, ab. (no abstract)

Simonds, J. P. A curious accident due to *B. pneumoniae*, 1917, **2**, 245

Simmonds, W. E., and Moore, J. L. The effect of continuous electric light in experimental arthritis, 1916, **1**, 130, ab.

Simmons, S. W. A bactericidal principle in excretions of surgical maggots which destroys important etiological agents of pyogenic infections, 1935, **30**, 253

Singer, C. and Shaw, E. B. Brucella infections in white mice, 1935, **29**, 44, ab.

Skinner, C. E. A comparison of liquid media for the quantitative enumeration of *Escherichia coli* by the dilution method, 1935, **30**, 331, ab.

— An explanation of the action of the so-called accessory substances in the association of azotobacter and cellulose decomposing organisms, 1930, **19**, 149

— The synthesis of aromatic amino acids from inorganic nitrogen by molds and the value of mold proteins in diets, 1934, **28**, 95

— The fixation of nitrogen by *Bacterium aerogenes* and related species, 1928, **15**, 9, ab.

Skinner, C. E., and Brown, J. W. The failure of *Bacterium coli* from human feces to grow at 46° in the Eijkman or Bulir tests, 1934, **27,** 191

— and Gardner, C. G. The utilization of nitrogenous organic compounds and sodium salts of organic acids by certain soil algae in darkness and in the light, 1930, **19,** 161

— and Sandhoff, A. Nitrogen transformations of ammonium sulphocyanate, a weed eradicator, in the soil, 1935, **29,** 79, ab.

— *See* Brown, J. W., 1930, **20,** 139

— *See* Waksman, S. A., 1926, **12,** 57

Skinner, W. W. *See* Koser, S. A., 1922, **7,** 111

Slanetz, C. A., and Rettger, L. F. Bacterial metabolism. The influence of phosphate buffer in carbohydrate-free and in glucose-containing media, 1928, **15,** 297

— — Bacterial metabolism. The influence of phosphate buffer in sugar-free and in glucose-containing media, 1927, **13,** 10, ab.

— and Rettger, L. F. A systematic study of the fusiform bacteria, 1933, **26,** 599

— — A systematic study of the fusiform bacteria, 1933, **25,** 43, ab.

Slanetz, C. A. *See* McAlpine, J. G., 1927, **13,** 11, ab.

Slemmons, W. S. Observations of bacterial inhibition and the quantity of inoculation, 1926, **11,** 88, ab.

Smart, H. F. A new bacterial species isolated from strawberries, 1932, **23,** 41, ab.

Smeeton, M. A. Observations on the types of organisms isolated from water after treatment with calcium hypochlorite, 1917, **2,** 355

Smirnow, M. R. Biological variations of bacteria. I. Induced variations in the cultural characters of *B. coli*, 1916, **1,** 385

Smith, A. J. *See* Evans, J. S., 1916, **1,** 468, ab.

— *See* Kolmer, J. A., 1916, **1,** 698, ab.

Smith, D. E., and Joffe, E. W. Variations in the electrophoretic mobilities of the Brucella groups, 1934, **28,** 127

Smith, D. T., Bethune, N., and Wilson, J. L. Etiology of spontaneous pulmonary disease in the albino rat, 1930, **20,** 361

Smith, E. F. Crown gall studies; showing changes in plant structure due to a changed stimulus, 1916, **1,** 577, ab.

— Further evidence that crown gall of plants is cancer, 1916, **1,** 577, ab.

— Studies on the crown gall of plants: its relation to human cancer, 1916, **1,** 578, ab.

— In memoriam Thomas J. Burrill, 1916, **1,** 269

Smith, E. G. *See* Fellers, C. R., 1934, **27,** 63, ab.

Smith, F. B., and Brown, P. E. The assimilation of nitrates by soil microörganisms, 1930, **19,** 43, ab.

— *See* Brown, P. E., 1930, **19,** 43, ab.

Smith, F. C. The epidemiology of tuberculosis, 1916, **1,** 264, ab.

Smith, F. F. *See* McCubbin, W. A., 1930, **19,** 23, ab.

Smith, G. H., and Cook, M. W. The mechanism of the abderhalden reaction with bacterial substrates, 1916, **1,** 128, ab.

— and Jordan, E. F. *Bacillus diphtheriae* in its relationship to bacteriophage, 1931, **21,** 75

— — Protobacterial forms of *B. diphtheriae*, 1930, **20,** 25

— *See* Winslow, C.-E. A., 1917, **2,** 505

— *See* Winslow, C.-E. A., 1920, **5,** 191

Smith, H. G. *See* Magee, M. C., 1930, **19,** 125

Smith, N. R. The occurrence of a strain of *Azotobacter chroococcum* which does not ferment mannitol, 1935, **30,** 323

— The identification of *B. radiobacter* and its occurrence in soil, 1928, **15,** 20, ab.

Smith, N. R. The microflora of old volcanic ash with special reference to nitrogen-fixing bacteria, 1932, **23,** 75, ab.
— Strain variation in azotobacter and the utilization of carbon compounds, 1934, **27,** 54, ab.
— and Humfeld, H. Preliminary bacteriological studies on two acid soils, 1929, **17,** 24, ab.
— — A case of local microbiological activity in soil, 1930, **19,** 43, ab.
— *See* Löhnis, F., 1916, **1,** 704, ab.
Smith, O. A. Some effects of salt on the morphology of *Bacillus megatherium*, 1933, **25,** 49, ab.
Smith, W. V. A simplified method of producing a potent precipitin serum, 1916, **1,** 569, ab.
— *See* Good, E. S., 1916, **1,** 249, ab.
— *See* Good, E. S., 1916, **1,** 415
— *See* Good, E. S., 1916, **1,** 568, ab.
Smyth, E. M., and Wilson, P. W. Concerning the alleged fixation of nitrogen by germinating peas, 1935, **30,** 330, ab.
Smyth, H. F. The reactions between bacteria and animal tissues under conditions of artificial cultivation. II. Bactericidal action in tissue cultures, 1916, **1,** 465, ab.
— The reactions between bacteria and animal tissues under conditions of artificial cultivation. III. The action of bacterial vaccines on tissue cultures in vitro, 1916, **1,** 465, ab.
— A bacteriologic study of the Spanish green olive, 1927, **13,** 56, ab.
Smyth, H. F., Jr. Evaluation of some factors influencing the phenol resistance of *Staphylococcus aureus*, 1934, **28,** 333
Snieszko, S. The isolation of thermophilic cellulose fermenting bacteria, 1932, **23,** 71, ab.
Snyder, M. L. *See* Hall, I. C., 1934, **28,** 181
Sobel, E. *See* Williams, A. W., 1932, **23,** 241
Söhngen, N. L., and Coolhaas, C. The fermentation of galactose by *Saccharomyces cerevisiae*, 1924, **9,** 131
Soletsky, D. *See* Bronfenbrenner, J., 1920, **5,** 79
Sotier, A. L. *See* Ruehhoft, C. C., 1933, **25,** 143
Soule, M. H. The Wassermann reaction and the Kahn test in leprosy, 1935, **29,** 48, ab.
— Microbic dissociation in *B. subtilis*, 1927, **13,** 41, ab.
— The respiration of the abortus-melitensis group, 1929, **17,** 59, ab.
— The interconvertibility of R and S bacterial types of *B. paratyphosus B* by homologous immune sera, 1928, **15,** 39, ab.
— Dissociation in the spore-forming aerobic group, 1932, **23,** 30, ab.
Southwick, M. A. *See* Pittman, M., 1930, **19,** 363
Sowell, G. A. *See* Mills, H. B., 1916, **1,** 582, ab.
Sparrow, J. C. The effect of various substances upon fat production by *B. megatherium*, *B. mycoides*, and *B. albolactis*, 1933, **25,** 36, ab.
Spaulding, E. R. *See* Plastridge, W. N., 1934, **27,** 74, ab.
— *See* Sullivan, E. A., 1916, **1,** 263, ab.
Speakman, H. B., Gee, A. H., and Luck, J. M. The influence of sodium chloride on the growth and metabolism of yeast, 1928, **15,** 319
— and Phillips, J. F. A study of a bacterial association. I. The biochemistry of the production of lactic acid, 1924, **9,** 183
Speed, K. Post-operative tetanus, 1916, **1,** 584, ab.
Spencer, R. R. Functional and morphological changes in the life history of *Dermacentroxenus rickettsi* Wolbach, the causative agent of Rocky Mountain spotted fever, 1927, **13,** 42, ab.
Spencer, S. C. An apparatus for tubing semi-solid media, 1923, **8,** 551

Spicer, S., Gonshorek, M. F., and Spicer, E. L. A study of variation in hemolytic streptococci from scarlet fever and erysipelas. Preliminary report, 1933, **26**, 505

Spicer, E. L. *See* Spicer, S., 1933, **26**, 505

Spitzer, G., and Parfitt, E. H. The bacterial proteolytic enzymes: their activity at different pH values and the effect of sodium chloride, 1930, **19**, 12, ab.

— *See* Parfitt, E. H., 1924, **9**, 123

— and Parfitt, E. H. Study of the lipolytic enzymes of three specific organisms, 1935, **29**, 69, ab.

Spray, R. S. Further application of semisolid media in cultivation and identification of sporulating anaerobes, 1935, **29**, 18, ab.

— Demonstration of a simple anaerobic culture dish, 1931, **21**, 23, ab.

— An example of anaerobic dissociation, 1933, **25**, 51, ab.

— A blood-clot digest medium for cultivation of hemophilic and other bacteria, 1927, **13**, 14, ab.

— A coagulable sugar-free base for fermentation studies, 1932, **23**, 43, ab.

— A semi-solid medium for anaerobic cultivation, 1933, **25**, 38, ab.

— Semisolid media in cultivation and differentiation of anaerobes, 1934, **27**, 32, ab.

Spur, B. *See* Orla-Jensen, S., 1926, **12**, 333

Stadnichenko, A. M. S. Thirty strains of Gram-positive cocci isolated from cases of genito-urinary infections, 1929, **17**, 303

— *See* Hill, J. H., 1927, **13**, 6, ab.

— *See* Hill, J. H., 1929, **17**, 205

Stahl, H. J. *See* Felton, L. D., 1935, **29**, 149

Stahly, G. L., and Werkman, C. H. Gelatinolysis by aerogenic anaerobes, 1933, **25**, 37, ab.

Starin, W. A. *See* Dack, G. M., 1927, **13**, 1, ab.

Stark, C. N., and Curtis, L. R. A critical study of some media used for the detection of colon organisms in water and milk, 1935, **29**, 27, ab.

— and England, C. W. Formate ricinoleate broth—a new medium for the detection of colon organisms in water and milk, 1935, **29**, 26, ab.

— — A note on the use of crystal violet in presumptive tests for water pollution, 1932, **23**, 36, ab.

— — Some results on the use of crystal violet in bacteriological culture media for water analysis, 1933, **25**, 439

— and Foter, M. J. The importance of feeds as a source of ropy milk organisms, 1931, **21**, 37, ab.

— and Herrington, B. L. The drying of bacteria and the viability of dry bacterial cells, 1931, **21**, 13, ab.

— and Sharp, P. F. The relationship between the hydrogen ion concentration of egg white and the growth of anaerobes, 1927, **13**, 59, ab.

— Sherman, J. M., and Stark, P. W. The influence of the filtrates of *Clostridium botulinum* and *Clostridium sporogenes* upon the growth of each of these organisms, 1928, **15**, 18, ab.

— and Stark, P. Bacteriophage as a precursive agent in the development of organisms causing ropy milk, 1932, **23**, 59, ab.

— — Physiological difference between young and old bacterial cells, 1929, **17**, 2, ab.

— — The relative thermal death rates of young and mature bacterial cells, 1929, **16**, 333

— — and Gordon, R. Some observations on the quantitative occurrence and the mechanism of formation of induced bacteriophage, 1932, **23**, 18, ab.

— *See* Sherman, J. M., 1927, **13**, 45, ab.

Stark, C. N. *See* Sherman, J. M., 1927, **13,** 60, ab.
— *See* Sherman, J. M., 1928, **15,** 35, ab.
Stark, O. K., and Montgomery, M. A study of the bacteriostatic and germicidal powers of merphenyl nitrate, 1935, **29,** 6, ab.
Stark, P., and Sherman, J. M. Concerning the habitat of *Streptococcus lactis*, 1935, **30,** 639
— *See* Sherman, J. M., 1931, **22,** 275
— *See* Stark, C. N., 1932, **23,** 59, ab.
— *See* Stark, C. N., 1929, **17,** 2, ab.
— *See* Stark, C. N., 1929, **18,** 333
Stark, P. W. *See* Sherman, J. M., 1928, **15,** 35, ab.
— *See* Sherman, J. M., 1927, **13,** 45, ab.
— *See* Stark, C. N., 1928, **15,** 18, ab.
— *See* Stark, C. N., 1932, **23,** 18, ab.
Starkey, R. L. Some influences of the development of higher plants upon the abundance and activities of microörganisms in the soil, 1929, **17,** 26, ab.
— The production of polythionates from thiosulfate by microörganisms, 1934, **28,** 387
— Concerning the carbon and nitrogen nutrition of *Thiobacillus thiooxidans*, an autotrophic bacterium oxidizing sulfur under acid conditions, 1925, **10,** 165
— Concerning the physiology of *Thiobacillus thiooxidans*, an autotrophic bacterium oxidizing sulfur under acid conditions, 1925, **10,** 135
— Cultivation of organisms concerned in the oxidation of thiosulfate, 1934, **28,** 365
— Cultivation of organisms concerned in the oxidation of thiosulfate in mineral media, 1934, **27,** 52, ab.
— Products of the oxidation of thiosulfate by bacteria in mineral media, 1934, **27,** 53, ab.
— and Halvorson, H. O. The importance of some heterotrophic microörganisms in the solution and precipitation of iron, 1927, **13,** 65, ab.
— *See* Waksman, S. A., 1932, **23,** 405
Starkey, T. A. The electrical treatment of water, 1916, **1,** 363, ab.
Stearn, A. E. A new approach to the chemistry of immunity, 1934, **27,** 88, ab.
— Compound formation of crystal violet with nucleic acid and gelatin and its significance in dye bacteriostasis, 1930, **19,** 133
— Calculated energy effects as suggestive of a mechanism of the influence of antigen on antibody formation, 1935, **29,** 52, ab.
— Rationalization, from the viewpoint of physical chemistry, of the behavior of bacteria toward dyes, with special reference to staining, 1933, **25,** 21, ab.
— and Stearn, E. W. The chemical mechanism of bacterial behavior. III. The problem of bacteriostasis, 1924, **9,** 491
— — The nature of the Gram compound and its bearing on the mechanism of staining, 1930, **20,** 287
— *See* Stearn, E. W., 1923, **8,** 567
— *See* Stearn, E. W., 1924, **9,** 463
— *See* Stearn, E. W., 1924, **9,** 479
— *See* Stearn, E. W., 1925, **10,** 13
— *See* Stearn, E. W., 1926, **11,** 345
— *See* Stearn, E. W., 1929, **18,** 227
— *See* Stearn, E. W., 1931, **21,** 18, ab.
— *See* Stearn, E. W., 1932, **23,** 399
— *See* Stearn, E. W., 1933, **26,** 9
— *See* Stearn, E. W., 1933, **26,** 37
— *See* Stearn, E. W., 1933, **26,** 57
Stearn, E. W. The correlation of variation in dye sensitivity with Gram character in certain Gram-positive organisms, 1927, **14,** 349
— and Stearn, A. E. A study of the chemical differentiation of bacteria, 1925, **10,** 13
— — The chemical mechanism of bacterial behavior. I. Behavior toward dyes—factors controlling the Gram reaction, 1924, **9,** 463

Stern, E. W., and Stern, A. E. The chemical mechanism of bacterial behavior. II. A new theory of the Gram reaction, 1924, **9**, 479
— — Conditions and reactions defining dye bacteriostasis, 1926, **11**, 345
— — The mechanical behavior of dyes, especially gentian violet, in bacteriological media, 1923, **8**, 567
— — The effect of the reaction of the medium on the characteristics of bacteria. I. General presentation of the problem, and results obtained with *Bacillus coli-communior*, *Salmonella enteritidis* and *Pseudomonas pyocyanea*, 1933, **26**, 9
— — The effect of the reaction of the medium on the characteristics of bacteria. II. Behavior of *Bacillus subtilis*, 1933, **26**, 37
— — The effect of the reaction of the medium on the characteristics of bacteria. III. Behavior of *Bacillus cereus*, 1933, **26**, 57
— — The characteristics of certain microörganisms as modified by the reaction of the medium, 1931, **21**, 18, ab.
— — The anomalous behavior of the tubercle bacillus as a Gram-positive organism with high resistance to gentian violet, 1932, **23**, 399
— Sturdivant, B. F., and Stearn, A. E. The ontogeny of an organism isolated from malignant tumors, 1929, **18**, 227
— *See* Stearn, A. E., 1924, **9**, 491
— *See* Stearn, A. E., 1930, **20**, 287
Steele, A. H. *See* Clark, L. T., 1931, **21**, 58, ab.
Steenken, W., Jr. *See* Petroff, S. A., 1929, **17**, 58, ab.
— *See* Petroff, S. A., 1931, **21**, 11, ab.
Stein, M. F. The interpretation of *B. coli* test results on a numerical and comparative basis, as applied to the investigation of water and sewage, 1919, **4**, 243
Stewart, F. E. Pyorrhea alveolaris and some modern discoveries regarding its causes and treatment, 1916, **1**, 455, ab.
Stewart, F. W. *See* Petroff, S. A., 1926, **11**, 104, ab.
Stewart, M. E. *See* West, R., 1916, **1**, 697, ab.
Stewart, M. W., and West, R. Study of a strain of *B. welchii* isolated in France together with some notes on gastric ulcers, 1916, **1**, 588, ab.
Stewart, V. B., and Leonard, M. D. Further studies in the rôle of insects in the dissemination of fire blight bacteria, 1916, **1**, 384, ab.
Stickney, O. D. Some fatal ear cases in the writer's practice, 1916, **1**, 376, ab.
Stiles, H. R., and Peterson, W. H. A rapid method for the determination of sugar in bacterial cultures, 1926, **11**, 79, ab.
— Peterson, W. H., and Fred, E. B. A rapid method for the determination of sugar in bacterial cultures, 1926, **12**, 427
— *See* Fred, E. B., 1925, **10**, 63
— *See* Peterson, W. H., 1929, **17**, 27, ab.
Stoddard, J. L., and Woods, A. C. A note on experimental nephropathy from some bacterial poisons, 1916, **1**, 684, ab.
Stokes, J. H. Studies on intradermal sensitization, I. Intradermal reactions to emulsions of normal and pathologic skin, 1916, **1**, 691, ab.
— Studies in intradermal sensitization, II. An intradermal reaction to agar and an interpretation of intradermal reactions, 1916, **1**, 691, ab.
Stoland, O. O. *See* Sherwood, N. P., 1930, **19**, 28, ab.
Stone, F. M. *See* Klein, S. J., 1931, **22**, 387
— and Hobby, G. L. A coccoid form of *C. diphtheriae* susceptible to bacteriophage, 1934, **27**, 403
— *See* Coulter, C. B., 1935, **29**, 54, ab.

Stone, R. V. *See* Hall, I. C., 1916, **1**, 553, ab.

Stone, R. W., Wood, H. G., Erb, C., and Werkman, C. H. Oxidation-reduction potential studies on propionic acid bacteria, 1935, **29**, 86, ab.

— — and Werkman, C. H. Activation of the lower fatty acids by propionic acid bacteria, 1935, **30**, 652, ab.

— *See* Erb, C., 1935, **29**, 85, ab.

— *See* Wood, H. G., 1935, **29**, 84, ab.

Stoner, H. W. *See* Hachtel, F. W., 1916, **1**, 683, ab.

Stovall, W. D. The control of diphtheria epidemics, 1916, **1**, 257, ab.

— and Nichols, M. S. Stabilized gentian violet, 1916, **1**, 576, ab.

Straka, R. P., and James, L. H. Further studies on frozen vegetables, 1935, **29**, 313

Strauch, L. B. *See* Tanner, F. W., 1926, **11**, 99, ab.

Strickler, A., Kolmer, J. A., and Schamberg, J. F. Complement fixation in acne vulgaris, 1916, **1**, 462, ab.

Stritar, J. *See* Werkman, C. H., 1932, **23**, 70, ab.

Strong, R. M. Culture media for paramecia and euglena, 1916, **1**, 693, ab.

Strouse, S., and Frank, I. Pollen extracts and vaccines in hay fever, 1916, **1**, 255, ab.

Stryker, L. M. Variations in the pneumococcus induced by growth in immune serum, 1916, **1**, 571, ab.

Stuart, C. A. The effect of environmental changes on the growth, morphology, physiology and immunological characteristics of *Bacterium typhosum*, 1924, **9**, 581

— *See* Anderson, E. H., 1935, **30**, 207

— *See* Carpenter, P. L., 1935, **29**, 18, ab.

— *See* Carpenter, P. L., 1935, **30**, 137

— *See* Fulton, M., 1935, **29**, 18, ab.

Stuart, L. S., and James, L. H. Studies in microbial thermogenesis. III. The effect of salting on the microbial heating of alfalfa hay, 1930, **19**, 53, ab.

— The morphology of bacteria causing reddening of salted hides, 1935, **29**, 88, ab.

— The production of lipolytic and depilating enzymes by the *Aspergillus flavus-oryzae* group, 1935, **29**, 88, ab.

Stubbs, E. L. Age, breed, and species susceptibility in transmissible leukosis, 1934, **27**, 79, ab.

Sturdivant, B. F. *See* Stearn, E. W., 1929, **18**, 227

Sturges, W. S. Flattened capillaries for microscopic examination of cultures, 1928, **15**, 19, ab.

— and Drake, E. T. Motility of *C. bifermentans*, 1928, **15**, 20, ab.

— — Strain variations in *C. bifermentans*, 1929, **17**, 15, ab.

— — A complete description of *Clostridium putrefaciens* (McBryde), 1927, **14**, 175

— and Parsons, L. B. Further isolations of *Clostridium flabelliferum* with a comparison of nitrogen metabolism of several strains of *C. flabelliferum* and *C. sporogenes*, 1926, **11**, 189

— Parsons, L. B., and Drake, E. T. Quantitative aspects of the metabolism of anaerobes. IV. The nature of the volatile acid produced by *C. histolyticum*, 1929, **17**, 14, ab.

— — — Quantitative aspects of the metabolism of anaerobes. IV. The nature of the volatile acid produced by *C. histolyticum* from proteins, 1929, **18**, 157

— and Reddish, G. F. *Clostridium flabelliferum:* a putrefactive anaerobe with brush-like sporangia, 1926, **11**, 37

— and Rettger, L. F. Bacterial autolysis, 1922, **7**, 551

Sturges, W. S. *See* Drake, E. T., 1929, **17**, 387
— *See* Parsons, L. B., 1926, **11**, 82, ab.
— *See* Parsons, L. B., 1926, **11**, 165
— *See* Parsons, L. B., 1926, **11**, 177
— *See* Parsons, L. B., 1926, **12**, 267
— *See* Parsons, L. B., 1927, **14**, 181
— *See* Parsons, L. B., 1927, **14**, 193
— *See* Parsons, L. B., 1927, **14**, 201
— *See* Parsons, L. B., 1927, **13**, 3, ab.
— *See* Rettger, L. F., 1916, **1**, 15
— *See* Rettger, L. F., 1916, **1**, 120, ab.
— *See* Rettger, L. F., 1916, **1**, 121, ab.
— *See* Rettger, L. F., 1916, **1**, 455, ab.
Sturges, W. S., Jr. The delayed development of colonies on plates seeded from disinfected sewage, 1919, **4**, 157
— and Rettger, L. F. Methods for the isolation and cultivation of *Bacillus putrificus* and other obligate anaerobes, 1919, **4**, 171
Styron, N. C. *See* Koser, S. A., 1930, **19**, 13, ab.
Sugg, J. Y. *See* Neill, J. M., 1929, **17**, 329
Sullivan, E. A., and Spaulding, E. R. The extent and significance of gonorrhea in a reformatory for women, 1916, **1**, 263, ab.
Sullivan, J. W. *See* Walker, R. H., 1930, **19**, 39, ab.
Sunderlin, G., and Werkman, C. H. Synthesis of vitamin B by microorganisms, 1928, **16**, 17
Sundt, O. F. *See* Thjøtta, T., 1921, **6**, 501
Sutermeister, M. *See* Winslow, C.-E. A., 1932, **24**, 185
Sutton, R. L., and O'Donnell, A. Foot and mouth disease in man, 1916, **1**, 376, ab.
Sweany, H. C. Notes on life cycle phenomena and filtrability of the tubercle bacillus, 1933, **25**, 587
— *See* Corper, H. J., 1918, **3**, 129
Swearingen, J. S., and Lewis, I. M. The nature of the effect of CO_2 under pressure upon bacteria, 1933, **26**, 201
Swenarton, J. C. Can *B. coli* be used as an index of the proper pasteurization of milk?, 1927, **13**, 419
— Observations on "pin point colony" organisms in the Baltimore milk supply, 1926, **11**, 285
— *See* Kessler, M. A., 1927, **14**, 47
Swenson, T. L., and James, L. H. Participation of catalase in cellular oxidative processes, 1935, **29**, 10, ab.
— *See* James, L. H., 1930, **19**, 55, ab.
Swift, H. F., and Kinsella, R. A. Immunization with sensitized bacteria, 1916, **1**, 462, ab.
Swingle, E. L. Studies on small colony variants of *Staphylococcus aureus*, 1935, **29**, 467
Syrocki, A. V., and Fuller, J. E. Studies in acid production by *Escherichia coli* and aerobacter aerogenes, 1935, **30**, 211, ab.
Szymanowski, W. T., and Hicks, R. A. A study of the action of short electric waves on several biological substances with special reference to diphtheria toxin, 1931, **21**, 59, ab.

T

Takaki, E. *See* Futaki, K., 1916, **1**, 259, ab.
Takano, R. The treatment of leprosy with cyanocuprol, 1916, **1**, 700, ab.
Tamiya, H. A new apparatus for intermittent observations of physiological changes in cultures of microörganisms, 1926, **12**, 125
Tang, F. F. Adsorption experiments with the virus of vaccinia, 1932, **24**, 133
— and Castaneda, M. R. An attempt to cultivate bacteria from rabbit encephalitis viruses, 1928, **16**, 431
Taniguchi, T. *See* Futaki, K., 1916, **1**, 259, ab.
Tanner, F. W. Comparison of the number of water bacteria growing on agar at 37°c. and on gelatin at 20°c., 1916, **1**, 101, ab.

Tanner, F. W. Studies on the bacterial metabolism of sulfur. I. Formation of hydrogen sulfide from certain sulfur compounds under aerobic conditions, 1917, **2,** 585
— A study of green fluorescent bacteria from water, 1918, **3,** 63
— and Burrows, W. The viability of yeasts in sucrose solutions, 1931, **21,** 32, ab.
— Devereux, E. D., and Higgins, F. M. The multiplication of yeasts and yeast-like fungi in synthetic nutrient solutions, 1926, **11,** 45
— and Evans, F. Bacteriological studies on the curing of meat, 1933, **25,** 71, ab.
— and Harding, H. G. Thermophilic bacteria from milk, 1926, **11,** 96, ab.
— and McCrea, F. D. *Clostridium botulinum*. IV. Resistance of spores to moist heat, 1923, **8,** 269
— and Strauch, L. B. The effect of sodium benzoate upon certain yeasts, 1926, **11,** 99, ab.
— and Wallace, G. I. Relation of temperature to the growth of thermophilic bacteria, 1925, **10,** 421
— and Williamson, B. The effect of freezing on yeasts, 1928, **15,** 23, ab.
— *See* Conn, H. J., 1922, **7,** 519
— *See* Conn, H. J., 1925, **10,** 315
— *See* Devereux, E. D., 1927, **14,** 317
— *See* Morrison, L. E., 1922, **7,** 343
— *See* Prucha, M. J., 1920, **5,** 559
— *See* Ruyle, E. H., 1934, **27,** 64, ab.
— *See* Wallace, G. I., 1931, **21,** 32, ab.
Tarnutzer, C. A. *See* Werkman, C. H., 1933, **25,** 33, ab.
Tatum, E. L., Fred, E. B., and Peterson, W. H. The effect of associated growth on the forms of lactic acid produced by certain bacteria, 1932, **23,** 73, ab.
— and Peterson, W. H. The stimulating effect of potato extract on the butyric acid bacteria, 1933, **25,** 26, ab.
— — The effect of asparagin and related compounds on certain butyric acid fermentations, 1935, **29,** 87, ab.
— — and Fred, E. B. Identification of asparagine as the substance stimulating the production of butyl alcohol by certain bacteria, 1935, **29,** 563
— — — An unknown factor stimulating the formation of butyl alcohol by certain butyric acid bacteria, 1934, **27,** 207
Taubenhaus, L. J. Soil stain, or scurf of the sweet potato, 1916, **1,** 133, ab.
Taylor, F. A. *See* Robinson, G. H., 1931, **21,** 49, ab.
Taylor, W. J. A report upon an outbreak of fowl typhoid, 1916, **1,** 357, ab.
Teague, O. The toxicity of victoria blue 4 R. for *B. paratyphosus* A, *B. paratyphosus* B, and *B. enteritidis*, 1918, **3,** 1
— *See* Holt-Harris, J. E., 1916, **1,** 693, ab.
Tenbroeck, C. A non-gas-producing strain of hog-cholera bacillus isolated from an old laboratory culture, 1916, **1,** 682, ab.
Tetrault, P. A. The growth of thermophilic cellulose decomposing organisms on agar, 1930, **19,** 15, ab.
— and McCoy, E. A modification of McLeod's anaerobic plate, 1929, **17,** 14, ab.
Thalhimer, W. *See* Celler, H. L., 1916, **1,** 589, ab.
Theiler, M. *See* Hughes, T. P., 1934, **27,** 76, ab.
Thexton, R. H. *See* Lochhead, A. G., 1935, **29,** 77, ab.
Thjøtta, T. On the bacillus of Morgan no. 1—a meta-colon-bacillus, 1920, **5,** 67
— On the bacteriology of dysentery in Norway, 1919, **4,** 355
— and Eide, O. K. A mutating, mucoid paratyphoid-bacillus isolated from the urine of a carrier, 1920, **5,** 501

Thjøtta, T., and Gundersen, E. A streptothrix isolated from the blood in a case of acute rheumatism with remarks on the classification of ray fungi, 1925, **10,** 1
— and Sundt, O. F. Toxins of *Bact. dysenteriae,* group III, 1921, **6,** 501
— and Waaler, E. Dissociation and sensitiveness to normal serum in dysentery bacilli of type III, 1932, **24,** 301
Thom, C. Effect of pasteurization on mold spores, 1916, **1,** 459, ab.
— and Ayers, S. H. Pasteurization applied to mold spores, 1916, **1,** 89, ab.
— and Humfeld, H. Notes on the association of microörganisms and roots, 1932, **23,** 79, ab.
— and Raper, K. Note upon the distribution of Dictyostelium and other slime molds in soil, 1932, **23,** 80, ab.
— *See* James, L. H., 1928, **15,** 117
Thomas, J. B., and Sandman, E. A. Studies on the classification of the colon-typhoid group, 1916, **1,** 565, ab.
Thomas, R. C. *See* Frost, W. D., 1927, **13,** 61, ab.
Thompson, I. *See* Hastings, E. G., 1930, **19,** 29, ab.
Thompson, L. The systematic relationships of *Actinobacillus,* 1933, **26,** 221.
— The systematic relationship of Actinobacillus, 1933, **25,** 44, ab.
— The blood-agar plate for spore-forming anaerobes, 1926, **11,** 305
— The preparation and preservation of complement, 1916, **1,** 252, ab.
— The occurrence of diphtheroids in routine blood cultures, 1931, **21,** 45
— Synthetic media for differentiation of the typhoid-paratyphoid group of bacteria, 1927, **13,** 47, ab.
— The value of vegetable extracts in culture mediums, 1929, **17,** 379
— The value of vegetable extracts in culture media, 1929, **17,** 4, ab.
— and Henthorne, J. C. A study of Gram negative bacilli of the genus *Bacteroides,* 1935, **29,** 5, ab.
— *See* Larson, N., 1930, **19,** 33, ab.
Thompson, L. E. *See* Genung, E. F., 1927, **14,** 139
Thompson, R. An organism with a transverse capsule, 1934, **28,** 41
— A device to facilitate and accelerate the uniform distribution of inoculum over the surface of poured plates, 1933, **26,** 539
— A mechanical device which prepares and inoculates rolled tubes, 1934, **28,** 279
Thompson, R. E. Irregularities in the test for *B. coli* in water, 1927, **13,** 209
Thompson, R. J. *See* Cameron, E. J., 1927, **13,** 64, ab.
Thompson, R. L. *See* Hoffstadt, R. E., 1929, **17,** 41, ab.
— *See* Hoffstadt, R. E., 1929, **17,** 41, ab.
Thorne, D. W., and Walker, R. H. The respiration and growth of *Rhizobium* as influenced by the reaction of the medium, 1935, **29,** 76, ab.
— — Physiological studies on *Rhizobium.* III. Respiration and growth as influenced by the reaction of the medium, 1935, **30,** 33
— — A growth factor for Rhizobia, 1935, **30,** 331, ab.
Thornton, H. R. Reduction of janus green B in milk, 1929, **17,** 34, ab.
— and Hastings, E. G. Some aspects of the methylene blue reduction test of milk, 1927, **13,** 62, ab.
— — Studies on oxidation-reduction in milk. I. Oxidation-reduction potentials and the mechanism of reduction, 1929, **18,** 293
— — Studies on oxidation-reduction in milk. II. The choice of an indicator for the reduction test. The reduction of janus green B in milk, 1929, **18,** 319
— — Oxidation-reduction potentials in milk, 1928, **15,** 26, ab.

Thornton, H. R. *See* Wright, W. H., 1927, **13,** 63, ab.
Thorwaldson, M. L. *See* Mudge, C. S., 1930, **19,** 47, ab.
Thro, W. C. Recovery of *Streptococcus viridans* from New York street dust, 1916, **1,** 360, ab.
Tileston, W. The etiology and treatment of rat-bite fever, 1916, **1,** 377, ab.
Tillett, W. S. The fibrinolytic activity of hemolytic streptococci in relation to the source of strains and to cultural reactions, 1935, **29,** 111
Tilley, F. W. The relation between chemical composition of peptones and hydrogen sulphide production by bacteria, 1923, **8,** 287
— Variations in hydrogen sulphide production by bacteria, 1923, **8,** 115
— and Chapin, R. M. Germicidal efficiency of chlorine and the N-chloro derivatives of ammonia, methylamine and glycine against anthrax spores, 1930, **19,** 295
— and Schaffer, J. M. Relation between the chemical constitution and germicidal activity of the monohydric alcohols and phenols, 1926, **12,** 303
— — Chemical constitution and germicidal activity of amines, ketones, and aldehydes, 1928, **16,** 279
— *See* Schaffer, J. M., 1927, **14,** 259
Tittsler, R. P. A brief review of the activities of the Central New York State Branch of the Society of American Bacteriologists, 1935, **30,** 446, ab.
— The advantages of O'Meara's modification of the Voges-Proskauer test, 1933, **25,** 40, ab.
— The reduction of nitrates to nitrites by *Salmonella pullorum* and *Salmonella gallinarum*, 1930, **19,** 261
— The effect of temperature upon the production of hydrogen sulphide by *Salmonella pullorum*, 1931, **21,** 111
— and Lisse, M. W. The relation between electrical charge and the agglutinating ability of *Salmonella pullorum*, 1928, **15,** 105
— — and Ferguson, R. L. The electrophoretic potential of *Rhizobium meliloti*, 1932, **23,** 481
— and Sandholzer, L. A. Studies on the Escherichia-aerobacter intermediates, 1934, **27,** 42, ab.
— — The use of semi-solid agar for the detection of bacterial motility, 1935, **29,** 15, ab.
— — The fermentation of cellobiose by bacteria, 1935, **29,** 20, ab.
— — Studies on the Escherichia-aerobacter intermediates. I. Cultural characteristics, 1935, **29,** 349
— — The fermentation of alpha-methylglucoside by bacteria, 1935, **29,** 363
— *See* Dozois, K. P., 1932, **24,** 123
— *See* Lisse, M. W., 1931, **21,** 383
— *See* Sandholzer, L. A., 1934, **27,** 28, ab.
Tobie, W. C. The pigment of *Bacillus violaceus*. I. The production, extraction and purification of violacein, 1935, **29,** 223
Tobey, S. *See* Poe, C. F., 1928, **15,** 9, ab.
Tonney, F. O. Lessons in laboratory diagnosis from the recent outbreak of amebiasis, 1935, **29,** 51, ab.
— Caldwell, F. C., and Griffin, P. J. The examination of the urine and feces of suspect typhoid carriers with a report on elaterin catharsis, 1916, **1,** 699, ab.
— and Noble, R. E. The relative persistence of *Bact. coli* and *Bact. aerogenes* in nature. I. In decayed stumps, 1931, **22,** 433
— — The interpretation of direct differential counts of colon-aerogenes organisms in well waters, 1932, **23,** 473
— *See* Jensen, L. B., 1928, **15,** 413
Toomey, J. A. The virulence of *H. pertussis*, 1935, **29,** 34, ab.

Torrey, J. C. Bacteria associated with certain types of abnormal lymph glands, 1916, **1**, 380, ab.
— New differential plating methods for *B. bifidus* (Tissier) and *B. acidophilus* (Moro), 1917, **2**, 435
— Kahn, M. C., and Salinger, M. H. The influence of H-ion concentration on the sporulation of *B. welchii*, 1930, **20**, 85
— *See* Weil, R., 1916, **1**, 253, ab.
Tracy, R. L., Jr. Lethal effect of alternating current on yeast cells, 1932, **24**, 423
— Spoilage of olives by colon bacilli, 1934, **28**, 249
Trask, J. D. *See* Blake, F. G., 1933, **25**, 289
Traum, J. *See* Meyer, K. F., 1916, **1**, 357, ab.
Trealease, W., and Birge, E. A. The beginnings of bacteriology in the Middle West, 1926, **11**, 86, ab.
Treece, E. L. Studies in bacterial metabolism: on the selective utilization of amino acids by bacteria, 1927, **13**, 13, ab.
Trist, M. E. *See* Kolmer, J. A., 1916, **1**, 369, ab.
— *See* Kolmer, J. A., 1916, **1**, 369, ab.
— *See* Kolmer, J. A., 1916, **1**, 370, ab.
— *See* Kolmer, J. A., 1916, **1**, 371, ab.
Tucker, E. J. *See* Bunker, G. C., 1918, **3**, 493
Tullidge, E. K. Tetanus: a surgical complication in the present war, 1916, **1**, 586, ab.
Tunnicliff, R. Effect of dissociation on specificity of hemolytic streptococci, 1935, **29**, 37, ab.
— Streptothrix in bronchopneumonia of rats similar to that in rat-bite fever, 1916, **1**, 580, ab.
Turner, H. G. *See* Farrell, M. A., 1932, **23**, 155
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Tuttle, C. *See* Bayne-Jones, S., 1927, **14**, 157

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Uhle, A. A., and Mackinney, W. H. Salvarsan in primary syphilis, 1916, **1**, 260, ab.
Ullman, S. J. Anthrax with report of cases, 1916, **1**, 587, ab.
Ulrich, C. *See* Burke, V., 1928, **15**, 40, ab.
Unger, L. J. *See* Koplik, H., 1916, **1**, 573, ab.
Upton, M. F. The effect of filtrates of certain intestinal microbes upon bacterial growth, 1929, **17**, 315
— and Kopeloff, N. Agglutination and dissociation studies with lactobacilli, 1932, **23**, 455
— — Serologic studies with *L. acidophilus* (Moro) and *L. bulgaricus* (Grigoroff), 1931, **21**, 51, ab.
— *See* Winslow, C.-E. A., 1926, **11**, 367

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Valentine, E. *See* Falk, K. G., 1932, **23**, 235
— *See* McGuire, G., 1932, **23**, 223
Valley, G. The favorable rôle of cysteine in the cultivation of anaerobic organisms, 1929, **17**, 12, ab.
— and Casman, E. P. On the serological diagnosis of pullorum disease in domestic fowls: The chemical nature and the mechanism of the "cloudy" reaction, 1929, **18**, 36, ab.
— and McAlpine, J. G. The preservation of complement in various gaseous environments with special reference to carbon dioxide, 1928, **15**, 44, ab.
— and Rettger, L. F. The influence of carbon dioxide on bacteria, 1927, **14**, 101
— — Carbon dioxide requirements of bacteria, 1926, **11**, 78, ab.
Vandecaveye, S. C. Studies of certain non-pellicle-forming vinegar bacteria, 1927, **14**, 1
— and Villanueva, B. R. Morphological relationships of soil microbes, 1934, **27**, 257

Vanderleck, J. *See* Harrison, F. C., 1916, **1**, 458, ab.
Van Eseltine, G. P. The gender of generic names of bacteria, 1933, **26**, 569
Van Kirk, H. C. *See* Rockwell, G. E., 1935, **29**, 47, ab.
Van Poole, G. M. An epidemic of dysentery at Fort Shafter, Hawaii, with three cases of the Hiss-Russell or "Y" bacillus infection, 1916, **1**, 588, ab.
Van Saun, A. I., and Freeman, D. V. Primary diphtheric vaginitis in children, 1929, **17**, 51, ab.
Van Suchtelen, F. H. Humus as a source of energy for soil microorganisms, and the energy liberated by their activity, 1931, **21**, 33, ab.
Van Vranken, M. *See* Hall, I. C., 1931, **21**, 2, ab.
Van Winkle, C. C. *See* Gurley, C. R., 1916, **1**, 697, ab.
Varley, J. R. *See* Leonard, G. F., 1932, **23**, 109, ab.
Varney, P. L. The serological classification of fusiform bacilli, 1927, **13**, 275
Vaughn, R., and Levine, M. Effect of temperature and boric acid on gas production in the colon group, 1935, **29**, 24, ab.
Villanueva, B. R. *See* Vandecaveye, S. C., 1934, **27**, 257
Virtanen, A. I. On the enzymes of bacteria and bacterial metabolism, 1934, **28**, 447
von Rashevsky, E. *See* Mellon, R. R., 1929, **17**, 5, ab.
Von Wowern, J. *See* Klarmann, E., 1929, **17**, 423

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Waaler, E. Five cases of infection of the urinary tract due to a member of the group of bacilli named after Morgan, 1931, **22**, 261
Waaler, E. *See* Thjøtta, T., 1932, **24**, 301
Wade, E. M., Archibald, R. W., and Whittaker, H. A. Chemical sterilization of milk bottles in relation to tubercle bacilli, 1928, **15**, 189
Wade, E. M. *See* Green, R. G., 1929, **17**, 55, ab.
Wadsworth, A., and Sickles, G. M. Studies of local reactivity to the bacterial toxins. (A preliminary report), 1933, **25**, 80, ab.
— Quigley, J. J., and Sickles, G. R. The preparation of diphtheria toxoid by treatment of the toxin with one per cent formalin and precipitation with acetone, 1933, **25**, 82, ab.
— — — The preparation of diphtheria toxoid adsorbed on calcium phosphate, 1935, **29**, 44, ab.
Wagner, E., and Meyer, K. F., with Dozier, C. C. Studies on the metabolism of *B. botulinus* in various media. XXVI, 1925, **10**, 321
Wahby, A. M., and Sherman, J. M. The growth of pathogenic organisms in milk, 1933, **25**, 60, ab.
Wahlin, J. G. A study of rennin action. I. Rennin production by Bacillus prodigiosus, 1928, **16**, 355
— A study of rennin action. II. Effect of rennin on sodium caseinate, 1928, **16**, 375
Waitzfelder, E. The treatment of typhoid fever with bacterins, 1916, **1**, 253, ab.
Waksman, S. A. The rôle of bacteria and other microörganisms in the decomposition of cellulose in nature, 1935, **30**, 441, ab.
— Studies on soil protozoa, 1916, **1**, 561, ab.
— Soil fungi and their activities, 1916, **1**, 679, ab.
— Incubation studies with soil fungi, 1916, **1**, 555, ab.
— Bacterial numbers in soils at different depths, and in different seasons of the year, 1916, **1**, 556, ab.

Waksman, S. A. Bacteria, actinomyces, and fungi in soils, 1916, **1**, 101, ab.
— Studies on the proteolytic enzymes of soil fungi and actinomycetes, 1918, **3**, 509
— Studies on the proteolytic activities of soil microörganisms, with special reference to fungi, 1918, **3**, 475
— Studies in the metabolism of actinomycetes. I, 1919, **4**, 189
— Studies in the metabolism of actinomycetes. II, 1919, **4**, 307
— Studies in the metabolism of actinomycetes. III. Nitrogen metabolism, 1920, **5**, 1
— A method for counting the number of fungi in the soil, 1922, **7**, 339
— Microörganisms concerned in the oxidation of sulfur in the soil. I. Introductory, 1922, **7**, 231
— Microörganisms concerned in the oxidation of sulfur in the soil. IV. A solid medium for the isolation and cultivation of Thiobacillus thiooxidans, 1922, **7**, 605
— The nature of soil organic matter and the rôle of microörganisms in its formation and decomposition, 1927, **13**, 50, ab.
— and Bavendamm, W. On the decomposition of agar-agar by an aerobic bacterium, 1931, **22**, 91
— and Carey, C. The use of the silica gel plate for demonstrating the occurrence and abundance of cellulose-decomposing bacteria, 1926, **12**, 87
— and Carey, C. L. Decomposition of organic matter in sea water by bacteria. I. Bacterial multiplication in stored sea water, 1935, **29**, 531
— — Decomposition of organic matter in sea water by bacteria. II. Influence of addition of organic substances upon bacterial activities, 1935, **29**, 545
— — and Allen, M. C. Bacteria decomposing alginic acid, 1934, **28**, 213
— and Curtis, R. E. Actinomyces of the soil, 1916, **1**, 558, ab.
— and Joffe, J. S. Microörganisms concerned in the oxidation of sulfur in the soil. II. *Thiobacillus thiooxidans*, a new sulfur-oxidizing organism isolated from the soil, 1922, **7**, 239
— — Studies in the metabolism of actinomycetes. IV. Changes in reaction as a result of the growth of actinomycetes upon culture media, 1920, **5**, 31
— and Nissen, W. Mushroom nutrition: a group of problems in microbiology, 1932, **23**, 81, ab.
— and Purvis, E. R. On the occurrence of microörganisms in peat bogs and their rôle in peat formation, 1932, **23**, 76, ab.
— and Reuszer, H. W. Bacteria in ocean waters and sea bottom and their rôle in the cycle of elements in the sea, 1932, **23**, 42, ab.
— and Skinner, C. E. Microörganisms concerned in the decomposition of celluloses in the soil, 1926, **12**, 57
— and Starkey, R. L. The decomposition of proteins by microörganisms with particular reference to purified vegetable proteins, 1932, **23**, 405
— *See* Conn, H. J., 1922, **7**, 519
Waldo, J. H., Shonle, H. A., and Powell, H. M. The bacteriological evaluation of some new water soluble organo-mercury compounds, 1931, **21**, 323
Wales, H. *See* Reddish, G. F., 1929, **17**, 44, ab.
Walker, H. H. *See* Winslow, C.-E. A., 1932, **24**, 185
— An aeration train for the study of gases produced in bacterial growth, 1930, **19**, 6, ab.
— An aeration train for the study of products of bacterial metabolism, 1932, **24**, 169

Walker, H. H., and Winslow, C.-E. A. Metabolic activity of the bacterial cell at various phases of the population cycle, 1932, **24,** 209
—— Metabolic activity of the bacterial cell at various phases of the population cycle, 1932, **23,** 53, ab.
—— Huntington, E., and Mooney, M. G. The physiological youth of bacteria as evidenced by cell metabolism, 1934, **27,** 22, ab.
———— The physiological youth of a bacterial culture as evidenced by cell metabolism, 1934, **27,** 303
Walker, I. C., and Haller, D. A. Routine Wassermann examinations of four thousand hospital patients, 1916, **1,** 262, ab.
Walker, J. E. The toxicity and germicidal activity of bacteriophage and of chemical disinfectants as compared by an in vivo test, 1930, **19,** 22, ab.
Walker, J. T. A. The standardization of disinfectants, 1916, **1,** 364, ab.
Walker, R. H., Anderson, D. A., and Brown, P. E. The comparative growth rates of *Rhizobium meliloti* and *Rhizobium japonicum*, 1932. **23,** 67, ab.
— and Anderson, D. A. The effect of nitrogen source on oxygen consumption by Rhizobium, 1933, **25,** 53, ab.
— and Brown, P. E. Some fermentation characteristics of various strains of *Rhizobium meliloti* and *Rhizobium japonicum*, 1930, **19,** 41, ab.
—— The numbers of *Rhizobium meliloti* and *Rhizobium trifolii* in soils as affected by soil management practices, 1935, **29,** 77, ab.
— Sullivan, J. W., and Pohlman, G. G. The spontaneous culture and silica gel plate methods for studying the non-symbiotic nitrogen-fixing bacteria in soils, 1930, **19,** 39, ab.
— *See* Anderson, D. A., 1933, **25,** 54, ab.
— *See* Martin, W. P., 1935, **30,** 332, ab.
— *See* Neal, O. R., 1935, **30,** 173
— *See* Thorne, D. W., 1935, **29,** 76, ab.
— *See* Thorne, D. W., 1935, **30,** 33
— *See* Thorne, D. W., 1935, **30,** 331, ab.
Wall, W. A., and Robertson, A. H. The use of domestic methylene blue in staining milk by the Breed method, 1922, **7,** 307
— *See* Hucker, G. J., 1922, **7,** 515
Wallace, G. I., and Neave, S. L. The nitrite test as applied to bacterial cultures, 1927, **14,** 377
— and Tanner, F. W. The effect of concentrated salt and sugar solutions on the thermo-death times of molds, 1931, **21,** 32, ab.
— *See* Tanner, F. W., 1925, **10,** 421
Wallin, I. E. A note on the morphology of bacteria symbiotic in the tissues of higher organisms, 1922, **7,** 471
Walton, S. T. Studies on the specific characteristics of syphilitic blood proteins, 1935, **29,** 55, ab.
Ward, A. R. *Bacterium pyogenes* and its relation to suppurative lesions in animals, 1917, **2,** 619
— *Bacterium pyogenes* associated with a case of multiple arthritis in a hog, 1916, **1,** 114, ab.
— Harding, H. A., and Harding, H. G. Comparison between bacterial plate count of and acid development in pasteurized milk at 70°F., 1932, **23,** 59, ab.
—— Variation of temperatures within bacteriological incubators, 1926, **11,** 91, ab.
— *See* Harding, H. A., 1926, **11,** 95, ab.
— *See* Harding, H. A., 1928, **15,** 24, ab.
— *See* Harding, H. A., 1929, **17,** 35, ab.
Ward, H. K. A note on a light-activated hemolysin produced by *B. influenzae*, 1928, **15,** 51
— *See* Fothergill, L. D., 1932, **23,** 99, ab.
Warden, C. C. The bio-chemistry of the gonococcus and its relation to immunity, 1916, **1,** 571, ab.

Warden, C. C., Connell, J. T., and Holly, L. E. The nature of toxin. The antigens of *Corynebacterium diphtheriae* and *Bacillus megatherium* and their relation to toxin, 1921, **6,** 103

— and Schmidt, L. E. Gonococcus-complement fixation: a new lipoid antigen, 1916, **1,** 571

Warren, M., and Herrick, W. W. Analysis of one hundred and thirty-four cases of bacteriemia, 1916, **1,** 467, ab.

Warren, S., and Mudd, S. The penetration of bacteria through capillary spaces. II. Migration through sand, 1924, **9,** 143

— *See* Mudd, S., 1923, **8,** 447

Warren, S. L. *See* Boak, R. A., 1933, **25,** 93, ab.

— *See* Boak, R. A., 1933, **27,** 83, ab.

Watkins, J. H., and Winslow, C.-E. A. The effect of cell concentration and age of culture upon the mortality of bacteria exposed to alkalinity and heat, 1932, **23,** 51, ab.

— — Factors determining the rate of mortality of bacteria exposed to alkalinity and heat, 1932, **24,** 243

— *See* Levine, M., 1926, **11,** 94, ab.

— *See* Levine, M., 1926, **11,** 94, ab.

Watson, P. D. *See* Frazier, W. C., 1930, **19,** 50, ab.

Waynick, D. D. *See* Lipman, C. B., 1916, **1,** 562, ab.

Weaver, G. B., and Rappaport, B. Further observations on the Schick test for diphtheria immunity, 1916, **1,** 573, ab.

Weaver, R. H. Electrophoresis studies on *Lactobacillus acidophilus* and *Lactobacillus bulgaricus* cultures, 1931, **21,** 51, ab.

— Studies on *Lactobacillus acidophilus* and *Lactobacillus bulgaricus*. II. Electrophoresis studies, 1932, **24,** 73

— *See* Williams, W. L., 1933, **25,** 39, ab.

Webb, G. A. Immunity in tuberculosis, 1916, **1,** 574, ab.

Webster, L. T., and Fite, G. L. Etiology of encephalitis in St. Louis, 1933, and its differentiation by protection tests, 1934, **27,** 74, ab.

— and Rake, G. W. Studies on the Meningococcus, 1933, **25,** 75, ab.

Weeter, H. M. Study of effect of dilution water on bacterial suspensions, 1916, **1,** 92, ab.

— *See* Prucha, M. J., 1916, **1,** 109, ab.

Weil, R. Anaphylatoxin and the mechanism of anaphylaxis, 1916, **1,** 126, ab.

— Equilibrium in the combination and the dissociation of precipitates, 1916, **1,** 255, ab.

— Note on a skin reaction in pneumonia, 1916, **1,** 252, ab.

— Characteristics of the precipitation reaction, 1916, **1,** 686, ab.

— and Torrey, J. C. Immunological studies in pneumonia, 1916, **1,** 253, ab.

Weinstein, L., and Rettger, L. F. Some factors involved in the biological production of acetone and butyl alcohol, 1932, **23,** 74, ab.

— — Some factors involved in the biological production of acetone and butyl alcohol, 1933, **25,** 201

— — Biological and chemical studies of the lactobacillus genus with special reference to xylose fermentation by *L. pentoaceticus*, 1932, **24,** 1

— — Biological and chemical studies of the Lactobacillus genus with special reference to xylose fermentation, 1931, **21,** 4, ab.

Weinzirl, J. The cause of explosion in chocolate candies, 1922, **7,** 599

— Nuts as a possible source of *Escherichia coli* found in candy, 1929, **17,** 29, ab.

— Sugar as a source of the anaerobes causing explosion of chocolate candies, 1927, **13,** 203

Weinzirl, J. Sugar as a source of anaerobes causing explosion of chocolate candies, 1926, **11,** 100, ab.
— Biology of the tubercle bacillus. III. Does the so-called fatty capsule serve to protect the tubercle bacillus?, 1933, **25,** 447
— Trichomonasis of chicks: a new and highly fatal disease, 1917, **2,** 441
— and Gerdeman, A. E. The bacterial count of ice cream held at freezing temperatures, 1929, **17,** 38, ab.
— *See* Dingle, J. H., 1932, **23,** 35, ab.
— *See* Dingle, J. H., 1932, **23,** 281
Weir, J. R., and Hubert, E. E. A serious disease in forest nurseries caused by *Peridermium filamentosum*, 1916, **1,** 132, ab.
Weirether, F. J. *See* Plastridge, W. N., 1935, **30,** 212, ab.
Weiss, E. The influence of antigen-diluents on the intensity of flocculation in the precipitation test for syphilis, 1931, **21,** 47, ab.
— An organism isolated from three cases of bacteremia after appendicitis, 1929, **17,** 60, ab.
— A direct method for the determination of the H-ion concentration of cultures, 1931, **21,** 22, ab.
— Antigenic studies of the precipitation test for syphilis, 1930, **19,** 34, ab.
— The application of Weiss' flagella method for the staining of spirochetes, 1929, **17,** 61, ab.
Weiss, J. E., and Rettger, L. F. *Lactobacillus bifidus*, 1934, **28,** 501
— and Rettger, L. F. *Lactobacillus bifidus* Tissier and its biological position in the group of aciduric organisms, 1934, **27,** 39, ab.
Welch, H. Classification of the streptococci of human feces, 1929, **17,** 413
— and Poole, A. K. The pleo-antigenicity of a variant of Proteus X19, 1934, **28,** 523
Wenck, P. R., Greene, H. C., and Fred, E. B. Factors influencing growth and sterol production of *Aspergillus fischeri*, 1935, **29,** 89, ab.
Wenner, J. J., and Rettger, L. F. A systematic study of the proteus group of bacteria, 1919, **4,** 331
Werkman, C. H. The rôle of accessory food factors in the physiology of microörganisms, 1926, **11,** 86, ab.
— Vitamin effects in the physiology of microörganisms, 1927, **14,** 335
— An improved technic for the Voges-Proskauer test, 1930, **20,** 121
— and Brown, R. W. The propionic acid bacteria. II. Classification, 1933, **26,** 393
— Davis, C. W., and Tarnutzer, C. A. Notes on the trimethylene glycol fermentation, 1933, **25,** 33, ab.
— Gillen, G. F. Bacteria producing trimethylene glycol, 1932, **23,** 167
— — Bacteria producing trimethylene glycol, 1931, **21,** 6, ab.
— and Kendall, S. E. Physiology and classification of the propionic acid bacteria, 1930, **19,** 18, ab.
— and Osburn, O. L. A method for the determination of ethyl and butyl alcohols in fermentation mixtures, 1931, **21,** 20, ab.
— and Stritar, J. Thermophilic fermentation of beet pulp, 1932, **23,** 70, ab.
— *See* Breden, C. R., 1930, **19,** 41, ab.
— *See* Fulmer, E. I., 1931, **21,** 299.
— *See* Osburn, O. L., 1933, **25,** 68, ab.
— *See* Patrick, R., 1930, **19,** 16, ab.
— *See* Rayburn, C. H., 1930, **19,** 7, ab.
— *See* Stahly, G. L., 1933, **25,** 37, ab.
— *See* Sunderlin, G., 1928, **16,** 17
— *See* Erb, C., 1935, **29,** 85, ab.
— *See* Nelson, M. E., 1935, **30,** 547
— *See* Reynolds, H., 1935, **30,** 652, ab.
— *See* Stone, R. W., 1935, **29,** 86, ab.
— *See* Stone, R. W., 1935, **30,** 652, ab.
— *See* Wood, H. G., 1935, **29,** 84, ab.
— *See* Wood, H. G., 1935, **30,** 332, ab.
— *See* Wood, H. G., 1935, **30,** 652, ab.
Werner, M. *See* Dack, G. M., 1927, **13,** 1, ab.

West, R., and Stewart, M. E. Gas bacillus infection with remarks on gastric ulcer, 1916, **1**, 697, ab.
— *See* Stewart, M. W., 1916, **1**, 588, ab.
Westall, L. *See* Kahn, R. L., 1930, **19**, 35, ab.
Weston, P. G. A simple method for blood cultures, 1916, **1**, 256, ab.
Weston, R. S. Grease and fertilizer base from Boston sewage, 1916, **1**, 457, ab.
Wetzel, N. C. A note on the application of Buchanan's formula to heat production in bacterial cultures, 1929, **18**, 117
Weyer, E. R., and Rettger, L. F. An experimental study of the organisms concerned in the commercial production of acetone and butyl alcohol by the biological method, 1926, **11**, 91, ab.
— — A comparative study of six different strains of the organism commonly concerned in large-scale production of butyl alcohol and acetone by the biological process, 1927, **14**, 399
Wheeler, M. W. The antigenic activity of hemolytic streptococci from different types of infection, 1932, **23**, 82, ab.
— *See* Kirkbride, M. B., 1928, **15**, 36, ab.
Wherry, W. B., and Oliver, W. W. On the cultivation of *Entameba buccalis*, 1916, **1**, 362, ab.
— — On a rapid method of cultivating the gonococcus, 1916, **1**, 373, ab.
Whitaker, R. *See* Sharp, P. F., 1927, **14**, 17
White, B. *See* Barnes, L. A., 1934, **27**, 106, ab.
White, E. C. *See* Hill, J. H., 1929, **17**, 47, ab.
— *See* Hill, J. H., 1929, **18**, 43
— *See* Hill, J. H., 1932, **23**, 107, ab.
White, G. E. *See* Prescott, S. C., 1931, **21**, 26, ab.
White, H. *See* Huntoon, F. M., 1931, **21**, 57, ab.
White, J. L. *See* Jensen, L. B., 1928, **15**, 413
— *See* Noble, R. E., 1935, **29**, 23, ab.
Whiting, A. L. The root-nodule organism of *Dalea alopecuroides* (Wood's clover), 1926, **11**, 93, ab.
Whittaker, H. A. *See* Wade, E. M., 1928, **15**, 189
Whittier, E. O. *See* Curran, H. R., 1933, **25**, 595
— *See* Frazier, W. C., 1931, **21**, 239
— *See* Frazier, W. C., 1931, **21**, 253
— *See* Rogers, L. A., 1927, **13**, 10, ab.
— *See* Rogers, L. A., 1928, **16**, 211
— *See* Rogers, L. A., 1930, **20**, 127
— *See* Rogers, L. A., 1931, **21**, 37, ab.
Whitman, L. *See* Mueller, J. H., 1931, **21**, 219
— *See* Sawyer, W. A., 1934, **27**, 75, ab.
Whitney, E. *See* McGuire, G., 1932, **23**, 223
— *See* Falk, K. G., 1932, **23**, 235
Wickerham, L. J., and Fabian, F. W. Dissociation of *Saccharomyces aceris-sacchari* Fabian and Hall and *Pichia alcoholophila* Klöcker, 1935, **29**, 11, ab.
Wilcox, H. L. A modification of the hygienic laboratory method for the production of tetanus toxin, 1916, **1**, 333
— The effect of pepton upon the production of tetanus toxin, 1921, **6**, 407
Wilcoxon, F., and McCallan, S. E. A. The fungicidal action of sulphur, 1935, **30**, 441, ab.
Wilder, R. M. Peritonitis following acute ovaritis of anginal origin, 1916, **1**, 257, ab.
Wile, U. J. Experimental syphilis in the rabbit produced by the brain substance of the living paretic, 1916, **1**, 258, ab.
— and DeKruif, P. H. Cultural experiments with the *Spirochaeta pallida* derived from the paretic brain, 1916, **1**, 258, ab.

Wilensky, A. O., and Geist, S. H. Experimental studies in the production of chronic gastric ulcer, 1916, **1,** 580, ab.

Williams, A. L. *See* Fulmer, E. I., 1931, **21,** 299

Williams, A. W., Gurley, C. R., Sobel, E., and Castelda, M. Milk-borne septic sore throat and scarlet fever and their relation to beta hemolytic streptococci, 1932, **23,** 241

Williams, C. C. *See* Cameron, E. J., 1927, **13,** 64, ab.

— *See* Cameron, E. J., 1928, **15,** 31, ab.

Williams, C. L., and Letton, H. P. A note on the preparation of agar agar culture media, 1916, **1,** 547

Williams, F. T., and Fred, E. B. The influence of concentration of soluble calcium on the precipitation of calcium carbonate by microörganisms, 1934, **27,** 58, ab.

— and McCoy, E. Calcium-precipitating bacteria from mud of a fresh water lake, 1933, **25,** 57, ab.

Williams, O. B. The effects of alkaloids on bacteria, 1931, **21,** 55, ab.

— Some factors influencing the heat resistance of bacterial spores, 1929, **17,** 16, ab.

— Spore formation by *Bacillus subtilis* as influenced by pepton concentration, 1930, **19,** 11, ab.

— and Morrow, M. B. The bacterial destruction of acetyl-methyl-carbinol, 1928, **16,** 43

Williams, W. L., Weaver, R. H., and Scherago, M. Comparison of a modified Eijkman test with standard methods in the detection of fecal pollution of drinking water, 1933, **25,** 39, ab.

Williams, W. W., and Burdick, W. A new culture medium for the tubercle bacillus, 1916, **1,** 411

— — Notes on the etiology of the recent epidemic of pseudo-influenza, 1916, **1,** 583, ab.

— — Sputum cultures with subsequent complement fixation control, 1916, **1,** 690, ab.

Williamson, B. *See* Tanner, F. W., 1928, **15,** 23, ab.

Wilson, E. D. Studies in bacterial proteases. I. The relation of protease production to the culture medium, 1930, **20,** 41

Wilson, F. C. Description of an apparatus for obtaining samples of water at different depths for bacteriological analysis, 1920, **5,** 103

Wilson, G. S. The proportion of viable bacteria in young cultures with especial reference to the technique employed in counting, 1922, **7,** 405

Wilson, J. L. *See* Smith, D. T., 1930, **20,** 361

Wilson, M. A., and Riley, C. V. Further studies on meningococcus toxin, 1932, **23,** 95, ab.

Wilson, O. M. *See* Clark, P. F., 1929, **17,** 57, ab.

Wilson, P. W., and Fred, E. B. The relationship between the carbon and nitrogen metabolism of the butyl alcohol forming organism, 1930, **19,** 17, ab.

— The carbohydrate-nitrogen relationship in symbiotic nitrogen fixation, 1935, **29,** 82, ab.

— and Fred, E. B. The effect of pCO_2 on the nitrogen fixation process of certain leguminous plants, 1933, **25,** 54, ab.

— and Kullman, E. D. A statistical inquiry into methods for estimating numbers of Rhizobia, 1931, **22,** 71

— Peterson, W. H., and Fred, E. B. The relationship between the nitrogen and carbon metabolism of *Clostridium acetobutylicum*, 1930, **19,** 231

— *See* Georgi, C. E. ,1933, **25,** 53, ab.

— *See* Orcutt, F. S., 1934, **27,** 55, ab.

— *See* Smyth, E. M., 1935, **30,** 330, ab.

Wing, H. U. *See* Frazier, W. C., 1931, **21**, 39, ab.
— *See* Frazier, W. C., 1932, **23**, 60, ab.
Winslow, C.-E. A. The changing bacteria, 1932, **23**, 26, ab.
— Notes and queries, 1926, **12**, 85
— Notes and queries, 1926, **12**, 299
— The importance of preserving the original types of newly described species of bacteria, 1921, **6**, 133
— William Thompson Sedgwick. 1855-1921, 1921, **6**, 255
— Broadhurst, J., Buchanan, R. E., Krumwiede, C., Jr., Rogers, L. A., and Smith, G. H. The families and genera of the bacteria. Preliminary report of the committee of the Society of American Bacteriologists on characterization and classification of bacterial types, 1917, **2**, 505
— — — — — — — The families and genera of the bacteria. Final report of the committee of the Society of American Bacteriologists on the characterization and classification of bacterial types, 1920, **5**, 191
— and Brooke, O. R. The viability of various species of bacteria in aqueous suspensions, 1927, **13**, 235
— and Dolloff, A. F. Relative importance of additive and antagonistic effects of cations upon bacterial viability, 1928, **15**, 67
— — The additive and antagonistic effect of cations upon bacterial viability, 1928, **15**, 13, ab.
— and Falk, I. S. Studies on salt action. VIII. The influence of calcium and sodium salts at various hydrogen ion concentrations upon the viability of *Bacterium coli*, 1923, **8**, 215
— — Studies on salt action. IX. The additive and antagonistic effects of sodium and calcium chlorides upon the viability of *Bact. coli*, 1923, **8**, 237
— and Haywood, E. T. A comparative study of the effect of cations on bacterial viability, 1930, **19**, 8, ab.
— — The specific potency of certain cations with reference to their effect on bacterial viability, 1931, **22**, 49
— and Kligler, I. J. Studies on the classification of the colon-typhoid group, 1916, **1**, 81, ab.
— — and Rothberg, W. Studies on the classification of the colon-typhoid group of bacteria with special reference to their fermentative reactions, 1919, **4**, 429
— Miller, J. A., and Noble, W. C. The effect of moderately high atmospheric temperatures upon the formation of agglutinins, 1916, **1**, 684, ab.
— — — The effect of moderately high atmospheric temperatures upon the formation of hemolysins, 1916, **1**, 365, ab.
— Rothberg, W., and Parsons, E. I. Notes on the classification of the white and orange staphylococci, 1920, **5**, 145
— and Sanjiyan, D. H. Acid-forming streptococci as indices of fomites pollution, 1924, **9**, 513
— and Upton, M. F. The electrophoretic migration of various types of vegetable cells, 1926, **11**, 367
— Walker, H. H., Sutermeister, M. The influence of aeration and of sodium chloride upon the growth curve of bacteria in various media, 1932, **24**, 185
— *See* Fabian, F. W., 1929, **18**, 265
— *See* Falk, I. S., 1926, **11**, 1
— *See* Mooney, G., 1935, **30**, 427
— *See* Shaughnessy, H. J., 1927, **13**, 8, ab.
— *See* Shaughnessy, H. J., 1927, **14**, 69
— *See* Walker, H. H., 1932, **23**, 53, ab.
— *See* Walker, H. H., 1932, **24**, 209
— *See* Walker, H. H., 1934, **27**, 22, ab.

Winslow, C.-E. A. *See* Walker, H. H., 1934, **27,** 303
— *See* Watkins, J. H., 1932, **23,** 51, ab.
— *See* Watkins, J. H., 1932, **24,** 243
Wise, L. E. *See* Jones, H. N., 1926, **11,** 359
Witt, N. F. *See* Poe, C. F., 1928, **15, 9,** ab.
Wohl, M. G. Autosensitized vaccines, 1916, **1,** 570, ab.
— Trichiniasis, 1916, **1,** 266, ab.
Wolbach, S. B. The etiology of Rocky Mountain spotted fever, 1916, **1,** 378, ab.
Wolf, F. A. Citrus canker, 1916, **1,** 384, ab.
— Further studies on peanut leafspot, 1916, **1,** 133, ab.
— and Shunk, I. V. Solid culture media with a wide range of hydrogen or hydroxyl ion concentration, 1921, **6,** 325
Wollstein, M. An experimental study of parotitis (mumps), 1916, **1,** 379, ab.
— *See* Amoss, H. L., 1916, **1,** 366, ab.
Wood, H. G., Stone, R. W., and Werkman, C. H. Dissimilation of glucose by propionic acid bacteria, 1935, **29,** 84, ab.
— and Werkman, C. H. The utilization of CO_2 by the propionic acid bacteria in the dissimilation of glycerol, 1935, **30,** 332, ab.
— — The isolation and possible intermediary rôle of formaldehyde in the propionic acid fermentation, 1935, **30,** 652, ab.
— *See* Erb, C., 1935, **29,** 85, ab.
— *See* Stone, R. W., 1935, **29,** 86, ab.
— *See* Stone, R. W., 1935, **30,** 652, ab.
Wood, J. E. *See* Roos, C., 1934, **27,** 100, ab.
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Algae, certain soil, utilization of nitrogenous organic compounds and sodium salts of organic acids by in darkness and in the light. Skinner, C. E., and Gardner, C. G., 1930, **19,** 161

Alginic acid, bacteria decomposing. Waksman, S. A., Carey, C. L., and Allen, M. C., 1934, **28,** 213

— — decomposition by microörganisms. Allen, M. C., 1934, **27,** 59, ab.

Alkali solutions, effect upon the bacteria of unwashed milk bottles. Mudge, C. S., and Lawler, B. M., 1928, **15,** 25, ab.

Alkalinity, mortality of bacteria exposed to, effect of cell concentration and age of culture on. Watkins, J. H., and Winslow, C.-E. A., 1932, **23,** 51, ab.; 1932, **24,** 243

Alkaloids, effects on bacteria. Williams, O. B., 1931, **21,** 55, ab.

Allergic responses of the embryonic chicken heart. Sherwood, N. P., 1927, **13,** 38, ab.

Allergy, bacterial, with the pneumococcus. Zinsser, H., and Grinnell, F. B., 1927, **13,** 30, ab.

— pneumococcus antigen involved in. Zinsser, H., and Grinnell, F. B., 1927, **14,** 301

Alpha-methylglucoside, fermentation of, by bacteria. Tittsler, R. P., and Sandholzer, L. A., 1935, **29,** 363

— fermentation of by coli-aerogenes group. Koser, S. A., and Saunders, F., 1932, **24,** 267

Alum, effect on horses used in the production of diphtheria antitoxin. Leonard, G. F., and Varley, J. R., 1932, **23,** 109, ab.

Alveolar infections, deep seated. Rhein, M. L., 1916, **1,** 362, ab.

Ambulance, American, bacteriological work at. Rogers, O. F., and Benet, G., 1916, **1,** 381

Amebiasis, lessons in laboratory diagnosis from recent outbreak of. Tonney, F. O., 1935, **29,** 51, ab.

Amines, chemical constitution and germicidal activity of. Tilley, F. W., and Schaffer, J. M., 1928, **16,** 279

Amino-acid nitrogen, Van Slyke method for the determination of as applied to the study of bacterial cultures. Lamson, R. W., 1924, **9,** 307

Amino acids action of proteolytic bacteria of milk on. Frazier, W. C., and Rupp, P., 1928, **16,** 231

— — growth of *B. diphtheriae* and. Mueller, J. H., and Kapnick, I., 1935, **30,** 525

— — rôle in the metabolism of *Bacterium diphtheriae*. Davis, L., and Ferry, N. S., 1919, **4,** 217

— — selective destruction of by *Cl. sporogenes* and *Cl. histolyticum*. Mead, M. W., Jr., and King, C. G., 1929, **17,** 151

— — selective utilization of by bacteria. Treece, E. L., 1927, **13,** 13, ab.

Aminopolypeptidase of *Aspergillus parasiticus*. Johnson, M. J., and Peterson, W. H., 1935, **29,** 90, ab.

Ammonia and its salts, error due to in Van Slyke amino nitrogen procedure. Parsons, L. B., and Sturges, W. S., 1926, **11,** 165

— content of lake waters, seasonal variations of and their relation to certain types of bacteria. Domogalla, B. P., 1926, **11,** 93, ab.

— in chlorination of water. Race, J., 1916, **1,** 458, ab.

— N-chloro derivatives of, germicidal efficiency against anthrax spores. Tilley, F. W., and Chapin, R. M., 1930, **19,** 295

— oxidation, mechanism of. Bonazzi, A., 1923, **8,** 343

— parallelism between conductivity and in nutrient gelatin cultures of putrefactive anaerobes. Parsons, L. B., and Sturges, W. S., 1926, **12,** 267

Ammonia producing microörganisms, growth and metabolism of mixed cultures. Greaves, J. E., Greaves, J. D., and Hickman, I., 1934, **28**, 159
— production, agar slants in detecting. Hucker, G. J., and Wall, W. A., 1922, **7**, 515
— production by bacteria, detection in agar slants. Hansen, P. A., 1930, **19**, 223
— production by bacteria in culture and in feces suspension, effect of yeast on. Pierce, H. B., 1931, **21**, 225
— production, relation between volatile acid and during metabolism of *Cl. putrefaciens*. Parsons, L. B., and Sturges, W. S., 1927, **14**, 193
Ammonification by certain soil fungi, effect of soil-reaction on. Kopeloff, N., 1916, **1**, 675, ab.
— effect of some manganese salts on. Brown, P. E., and Minges, G. H., 1916, **1**, 677, ab.
Ammonium sulphocyanate, a weed eradicator, nitrogen transformations of in the soil. Skinner, C. E., and Sandhoff, A., 1935, **29**, 79, ab.
Amniotic fluid as a bacterial culture medium. Giltner, W., and Ludlum, L. C., 1916, **1**, 91, ab.
Amoebiasis, relation to pyorrhea alveolaris. Sanford, A. H., and New, G. B., 1916, **1**, 362
Amorphous phases of bacteria. Broadhurst, J.; 1933, **25**, 545
Ampoules, vaccine, apparatus for filling. Davis, R. G., 1916, **1**, 373, ab.
Amylase of *Cl. acetobutylicum*. Johnston, W. W., and Wynne, A. M., 1935, **30**, 491
Amyloid disease, production of in rabbits by injections of living colon bacilli. Bailey, C. H., 1916, **1**, 587, ab.
Anaemia-like blood changes, pernicious, accompanying *B. welchii* infections in rabbits. Reed, G. B., and Orr, J. H., 1926, **11**, 109
Anaerobe, *see also: Clostridium*
— cellulose-fermenting, apparently wide-spread, *Cl. cellulosolvens* (n. sp.?). Cowles, P. B., and Rettger, L. F., 1931, **21**, 167
— from dental caries. Jay, P., 1927, **14**, 385
— pleomorphic, etiological in a fatal meningitis. Jackson, E. G., 1928, **15**, 48, ab.
— saprophytic, quantitative determinations of biochemical changes produced by. Bushnell, L. D., 1922, **7**, 373
Anaerobes, aerogenic, gelatinolysis by. Stahly, G. L., and Werkman, C. H., 1933, **25**, 37, ab.
— butyric acid, fermentation of glucose and arabinose by. Langlykke, A. F., and Fred, E. B., 1935, **29**, 86, ab.
— — — products formed in fermentation of glucose and arabinose by. Langlykke, A. F., Peterson, W. H., and McCoy, E., 1935, **29**, 333
— causing explosion of chocolate candies, sugar as source of. Weinzirl, J., 1926, **11**, 100, ab.; 1927, **13**, 203
— corn-liver medium for detection and dilution counts of. McClung, L. S., and McCoy, E., 1934, **27**, 35, ab.; **28**, 267
— cultivation and differentiation of in semisolid media. Spray, R. S., 1934, **27**, 32, ab.
— cultivation of. Bushnell, L. D., 1922, **7**, 277
— Dick's plate method for isolating, modifications in. Northrup, Z., 1919, **4**, 299
— growth and proteolytic enzymes of. Dernby, K. G., and Blanc, J., 1921, **6**, 419
— — in crystal violet bile media. Poe, C. F., 1930, **19**, 117
— lactic acid production by. Hussong, R. V., and Hammer, B. W., 1930, **19**, 52, ab.

Anaerobes, lactose fermenting, differentiation from *B. coli*, Kahn, R. L., 1918, **3**, 561
— metabolism of, quantitative aspects. Nature of the volatile acid produced by *C. histolyticum*. Sturges, W. S., Parsons, L. B., and Drake, E. T., 1929, **17**, 14, ab.
— — — quantitative aspects. Nature of the volatile acid produced by *C. histolyticum* from proteins. Sturges, W. S., Parsons, L. B., and Drake, E. T., 1929, **18**, 157
— — — quantitative aspects. Relation between volatile acid and ammonia production during metabolism of *C. putrefaciens*. Parsons, L. B., and Sturges, W. S., 1927, **14**, 193
— — — Proteolysis by *C. putrefaciens* compared with that of other anaerobes. Parsons, L. B., and Sturges, W. S., 1927, **14**, 181
— — — The volatile acids produced by *C. putrefaciens* in cooked meat medium. Parsons, L. B., and Sturges, W. S., 1927, **14**, 201
— methane production, study of chemical mechanism of. Buswell, A. M., 1935, **29**, 81, ab.
— obligate, isolation and cultivation of. Sturges, W. S., Jr., and Rettger, L. F., 1919, **4**, 171
— of soil, certain butyric, serological study. McCoy, E., 1934, **27**, 56, ab.
— pathogenic, from African poisoned arrows. Hall, I. C., 1927, **13**, 2, ab.
— — studies in. Certain genera of the *Clostridiaceae*. Heller, H. H., 1922, **7**, 1
— petri dish cultures of, simple method of growing. Herrington, B. L., and Knaysi, G., 1930, **19**, 101
— principles concerning the isolation of. Heller, H. H., 1921, **6**, 445
— putrefactive, parallelism between ammonia and conductivity in nutrient gelatine cultures of. Parsons, L. B., and Sturges, W. S., 1926, **11**, 82, ab.
— simple apparatus for isolating. Northrup, Z., 1916, **1**, 90, ab.
— spore-forming, blood-agar plate for. Thompson, L., 1926, **11**, 305
— — — growth at 50°C. Greer, F. E., 1926, **12**, 243
— sporulating, gentian violet in presumptive test for *B. coli* in milk with relation to. Hall, I. C., and Ellefson, L. J., 1918, **3**, 355
— — reduction of selenium compounds by. Hall, I. C., 1926, **11**, 407
— — semisolid media for cultivation and identification of. Spray, R. S., 1935, **29**, 18, ab.
Anaerobic bacilli, bacteriological findings in 186 human autopsies with special reference to. Hall, I. C., 1930, **19**, 28, ab.
— — gram-positive non-sporebearing, of human feces. Eggerth, A. H., 1935, **30**, 277
— — pathogenic, postmortem findings in guinea pigs inoculated with pure cultures of. Hall, I. C., 1928, **15**, 17, ab.
— — obligate, isolation from the feces of newborn infants and other human sources, probable identity with the "Kopfchenbakterien" of Escherich, Rodella's "Bacillus III," and *Bacillus paraputrificus* (Bienstock). Hall, I. C., and Snyder, M. L., 1934, **28**, 181
— bacteria. Brown, J. H., 1925, **10**, 513
— — butyric acid-forming, nitrogen fixation by pure cultures of. McCoy, E., and Higby, W. M., 1928, **15**, 8, ab.
— — capable of fermenting sulfite waste liquor. Partansky, A. M., and Henry, B. S., 1935, **30**, 559
— — cellulose decomposition by. Cowles, P. B., 1930, **19**, 15, ab.

Anaerobic bacteria, corn liver-medium for detection and dilution counts of. McClung, L. S., and McCoy, E., 1934, **28**, 267
— — discoloration of brain medium by. Hall, I. C., and Peterson, E., 1924, **9**, 211
— — filter-passing, of the upper respiratory tract. Burky, E. L., and Freese, H. L., 1931, **22**, 309
— — historical review and technique of culture of certain thermophilic anaerobes. McClung, L. S., 1935, **29**, 173
— — improved method of obtaining surface colonies of. Reeves, J. R., 1933, **26**, 471
— — in dairy products. Numbers of spores of anaerobic bacteria in milk and cream. Hussong, R. V., and Hammer, B. W., 1930, **19**, 89
— — — — — — Relationship of anaerobic bacteria to certain abnormal fermentations. Hussong, R. V., and Hammer, B. W., 1930, **19**, 95
— — obligate, physical and chemical principles in cultivation of. Hall, I. C., 1929, **17**, 255
— — of the nasopharynx. Noble, W. C., Jr., and Brainard, D. H., 1928, **15**, 19, ab.
— — reduced iron in cultivation of. Hastings, E. G., and McCoy, E., 1932, **23**, 54, ab.
— — spore-bearing, hydrogen sulphide production by. Kahn, M. C., 1925, **10**, 439
— — spore-forming, morphological, cultural and biochemical study. Reddish, G. F., and Rettger, L. F., 1924, **9**, 13
— — suggestions concerning a rational basis for classification of. Heller, H. H., 1921, **6**, 521
— — taxonomy of cultures of a thermophilic species causing "swells" of canned foods. McClung, L. S., 1935, **29**, 189
— conditions, production of. Ehrenberg, H., 1927, **14**, 391
— microörganisms, cultivation of. Herrmann, L. G., 1932, **23**, 331
— — found in naso-pharyngeal washings. Branham, S. E., 1927, **13**, 3, ab.
— organisms, cysteine in cultivation of. Valley, G., 1929, **17**, 12, ab.
— organisms, reduced iron in cultivation of. Scott, J. P., and Brandly, C. A., 1933, **26**, 1
— plate, McLeod's, modification of. Tetrault, P. A., and McCoy, E., 1929, **17**, 14, ab.
— plating, method permitting observation of growth. Jones, H. M., 1916, **1**, 339
— sporeformers, control of in Emmental cheese making. Demeter, K. J., 1933, **25**, 64, ab.
Anaerobiosis, chemical criteria of. Hall, I. C., 1921, **6**, 1
— produced by a central catalyzing station. Boëz, L., 1927, **13**, 227
— relation of reduction potentials in bacterial cultures to. Cohen, B., 1928, **15**, 16, ab.
— studies on, history of. Clark, W. M., 1928, **15**, 16, ab.
Anaesthetics, influence of splenectomy and on non-specific complement fixation by normal rabbit and dog sera. Kolmer, J. A., and Pearce, R. M., 1916, **1**, 370, ab.
Anaphylactic and immune reactions, analysis of by means of the isolated mammalian heart. Manwaring, W. H., Meinhard, A. R., and Denhart, H. L., 1916, **1**, 687, ab.
— and immune tissues, autolysis of. Manwaring, W. H., and Oppenheimer, R., 1916, **1**, 683, ab.
— shock, tissue extracts and. Gerber, L., and Gerwe, E., 1935, **29**, 32, ab.
Anaphylatoxin and the mechanism of anaphylaxis. Weil, R., 1916, **1**, 126, ab.

Anaphylaxis, active, in turtles. Downs, C. M., 1927, **13**, 39, ab.
— allergic responses of the embryonic chicken heart. Sherwood, N. P., 1927, **13**, 38, ab.
— canine. Sherwood, N. P., and Stoland, O. O., 1930, **19**, 28, ab.
— mechanism of antianaphylaxis and. Bronfenbrenner, J., 1916, **1**, 127, ab.
— passive sensitization of turtles and guinea pigs using immune serum from chickens and rabbits. Sherwood, N. P., and Downs, C. M., 1927, **13**, 39, ab.
anatum, see Bacterium
Animal tissues, reactions between bacteria and under conditions of artificial cultivation. Smyth, H. F., 1916, **1**, 465, ab.
Animals, corynebacteria and diseases of. Merchant, I. A., 1935, **30**, 95
Anions in combination with sodium, influence on bacterial viability. Fabian, F. W., and Winslow, C.-E. A., 1929, **18**, 265
Anopheles punctipennis, host of tertian malaria. King, W. V., 1916, **1**, 583, ab.
Antagonism, bacterial, with special reference to the effect of *Pseudomonas fluorescens* on spore-forming bacteria of soils. Lewis, I. M., 1929, **17**, 89
Anthrax. Ullman, S. J., 1916, **1**, 587, ab.
— diagnosis from putrefying animal tissues. Hagan, W. A., 1920, **5**, 343
— spores, germicidal efficiency of chlorine and the N-chloro derivatives of ammonia, methylamine, and glycine against. Tilley, F. W., and Chapin, R. M., 1930, **19**, 295
— vaccination experiments against. Eichhorn, A., 1916, **1**, 250, ab.
Antianaphylaxis, mechanism of anaphylaxis and. Bronfenbrenner, J., 1916, **1**, 127, ab.
Antiblastic immunity. Dochez, A. R., and Avery, O. T., 1916, **1**, 254, ab.
Antibodies, carbohydrate content as a criterion of the suitability of a broth for the culture of pneumococci. McGuire, G., Valentine, E., Whitney, E., and Falk, K. G., 1932, **23**, 223
— use of green bananas in pneumococci culture media. Falk, K. G., Valentine, E., McGuire, G., and Whitney, E., 1932, **23**, 235
— spirochaeticidal, against *Treponema pallidum*. Zinsser, H., and Hopkins, J. G., 1916, **1**, 378, ab.
Antibody and antigen, coexistence in the body. Denzer, B. S., 1916, **1**, 685, ab.
— formation, calculated energy effects as suggestive of a mechanism of influence of antigen on. Stearn, A. E., 1935, **29**, 52, ab.
— — in animals treated intracutaneously and subcutaneously with killed cultures of *Staphylococcus aureus*. Hoffstadt, R. E., and Almaden, P., 1932, **23**, 105, ab.
— molecule, size of. Huntoon, F. M., 1926, **11**, 105, ab.
— pneumococcus, Felton, spectrographic identity of euglobulin of. Coulter, C. B., Kabat, E. A., and Stone, F. M., 1935, **29**, 54, ab.
— proportion of antigen to in precipitates, influence of molecular weight of antigen on. Hooker, S. B., and Boyd, W. C., 1934, **27**, 91
— production in allergic rabbits. Behrens, C. A., 1930, **19**, 30, ab.
— — multiple. Behrens, C. A., 1931, **21**, 46, ab.
— substance, amount in an immune serum. Huntoon, F. M., 1926, **11**, 105, ab.
— titer of so-called "normal" adult serum compared with that of convalescent poliomyelitic serum. Brodie, M., 1932, **23**, 102, ab.

Antigen, auxiliary, for Kahn test. Kahn, R. L., Lubin, G., and McDermott, E., 1929, **17**, 49, ab.
— coexistence with antibody in the body. Denzer, B. S., 1916, **1**, 685, ab.
— correction for Kahn reaction. Kahn, R. L., McDermott, E., and Lubin, G., 1928, **15**, 49, ab.
— diluents, influence of on the intensity of flocculation in the precipitation test for syphilis. Weiss, E., 1931, **21**, 47, ab.
— heterologous, immunization with. Kulp, W. L., and Borden, A. G., 1935, **30**, 212, ab.
— immunizing, in pneumococcus, distribution of. Felton, L. D., 1934, **27**, 90, ab.
— influence of molecular weight of on the proportion of antibody to precipitates. Hooker, S. B., and Boyd, W. C., 1934, **27**, 91, ab.
— of pneumococcus, for human beings. Felton, L. D., 1935, **29**, 55, ab.
— specific, fate of in immunized animal: Extent of its (1) temporary retention in area of injection, (2) diffusion from this area, (3) destruction in this area, and (4) destruction following diffusion. Kahn, R. L., McDermott, E. B., and Sattler, S. D., 1935, **29**, 50, ab.
Antigenic activity of meningococcus strains, precipitation reactions with immune serum in relation to. Cohen, S. M., 1934, **27**, 85, ab.
— properties of autolysed bacteria. Robinson, G. H., 1916, **1**, 115, ab.
— — of freshly isolated and stock strains of *B. pertussis*. Coffey, J. M., 1934, **27**, 96, ab.
— — of ultramicroscopic viruses. Schultz, E. W., 1930, **19**, 20, ab.
— structure of *Staphylococcus aureus* and its variants. Hoffstadt, R. E., Youmans, G. P., and Clark, W., 1934, **27**, 97, ab.
— studies, comparative, on egg albumin denatured by intense audible sound and by other means. Flosdorf, E. W., and Chambers, L. A., 1934, **27**, 92, ab.
— value of *Spirochaeta hyos* in complement fixation tests on hog cholera sera. King, W. E., and Drake, R. H., 1916, **1**, 114, ab.
Antigens, heat labile and heat stable, in production of agglutinins for various spore-bearing anaerobes. McClung, L. S., and McCoy, E., 1935, **29**, 59, ab.
— hemocyanins as. Hooker, S. B., and Boyd, E. C., 1935, **29**, 57, ab.
— soluble, of *Bact. enteritidis*. Branham, S. E., and Humphreys, E. M., 1927, **13**, 46, ab.
Antimeningococcic serum in the joint manifestations of gonorrhea. Malleterre, F., 1916, **1**, 582, ab.
Antipneumococcus serum, protective substance in, comparison of the water-insoluble proteins with those of normal horse serum. Felton, L. D., 1933, **25**, 76, ab.
Antirabic emulsions, Pasteur, action of antiseptics in. Poor, D. W., 1916, **1**, 685, ab.
Antiseptic, azochloramid as. Schmelkes, F. C., and Horning, E. S., 1935, **29**, 323
— effects on biological products when used as preservatives. Rosenstein, C., Levin, I., and Levin, H., 1935, **29**, 6, ab.
— silver as, in preservation of fruit juices. James, L. H., and Beavens, E. A., 1935, **29**, 73, ab.
Antiseptics, improved technique for comparison by yeast fermentation. Branham, S. E., 1929, **17**, 44, ab.
— method of testing. Reddish, G. F., 1928, **15**, 14, ab.
Antisera and toxins produced with hemolytic streptococci, relations between. Kirkbride, M. B.,

Wheeler, M. W., and Hendry, J. L., 1928, **15,** 36, ab.

Anti-serum, influence on virulence and electrophoresis of pneumococci. Jacobson, M. A., and Falk, I. S., 1927, **13,** 191

Antitoxin content of human blood, seasonal variation. Perkins, R. G., Heeren, R., Megrail, E., and Grossman, A. B., 1929, **17,** 49, ab.

— gas gangrene (oedematiens), standardization of. Bengtson, I. A., 1935, **29,** 46, ab.

Antivenin specificity. Do Amaral, A., 1927, **13,** 48, ab.

Apical abscesses, bacteriological study in relation to vaccine therapy. Krumweide, C., Jr., and Pratt, J. S., 1916, **1,** 684, ab.

Apparatus, bacteriological, time saving. Prucha, M. J., and Tanner, F. W., 1920, **5,** 559

— for automatic control of pH. Longsworth, L. G., and MacInnes, D. A., 1935, **29,** 595

— for pouring an exact quantity of agar into plates aseptically and free from foam and bubbles. Leifson, E., 1935, **30,** 423

Appendicitis and parotitis, an epidemic of, probably due to streptococci in dairy products. Rosenow, E. C., and Dunlap, S. I., 1916, **1,** 585, ab.

— bacteremia after, an organism isolated from three cases of. Weiss, E., 1929, **17,** 60, ab.

Aqueduct, Los Angeles, sanitary features. Heinley, B. A., 1916, **1,** 250, ab.

Arabinose, and glucose, products from the fermentation of, by butyric acid anaerobes. Langlykke, A. F., Peterson, W. H., and McCoy, E., 1935, **29,** 333

— fermentation of by certain aerobic bacteria. Fred, E. B., Peterson, W. H., and Anderson, J. A., 1923, **8,** 277

— products of, from fermentation by butyric acid anaerobes. Langlykke, A. F., and Fred, E. B., 1935, **29,** 86, ab.

Aroma-producing microörganisms. Omelianski, V. L., 1923, **8,** 393

Arrows, African poisoned, pathogenic anaerobes from. Hall, I. C., 1927, **13,** 2, ab.

Arsenic compounds, tuberculocidal action of. Arkin, A., and Cooper, H. J., 1916, **1,** 585, ab.

— stimulating influence upon nitrogen-fixing organisms of the soil. Greaves, J. E., 1916, **1,** 554, ab.

Arteriosclerosis, general, *Micrococcus niger*, a new pigment-forming anaerobic coccus recovered from urine in a case of. Hall, I. C., 1930, **20,** 407

Arthritis, chronic, bacteriologic studies in. Richards, J. H., 1920, **5,** 511

— experimental, effect of continuous electric light in. Simmonds, W. E., and Moore, J. L., 1916, **1,** 130 ab.

— multiple, *Bacterium pyogenes* associated with a case of in a hog. Ward, A. R., 1916, **1,** 114, ab.

Asbestos, shredded, in methane fermentations, use of. Breden, C. R., and Buswell, A. N., 1933, **25,** 69, ab.; **26,** 379

Ascobacillus, conjunction of disexual forms. Broadhurst, J., Moriyama, Y., and Pease, D., 1931, **21,** 305

Ash, old volcanic, microflora of, with special reference to nitrogen-fixing bacteria. Smith, N. R., 1932, **23,** 75, ab.

Asiatic cholera, prevention of. McLaughlin, A. J., 1916, **1,** 131, ab.; 377, ab.

Asparagin and glycerin metabolism of the tubercle bacillus. Dingle, J. H., and Weinzirl, J., 1932, **23,** 35, ab.

— identification of, as the substance

stimulating the production of butyl alcohol by certain bacteria. Tatum, E. L., Peterson, W. H., and Fred, E. B., 1935, **29,** 563

Asparagus extract in media for cultivation of legume nodule bacteria. Carroll, W. R., 1929, **17,** 21, ab.

Aspergillus clavatus, yeast-growth stimulant production by. Schopmeyer, H., and Fulmer, E. I., 1931, **22,** 23

— *fischeri*, factors influencing growth and sterol production of. Wenck, P. R., Greene, H. C., and Fred, E. B., 1935, **29,** 89, ab.

— *flavus-oryzae* group, production of lipolytic and depilating enzymes by. Stuart, L. S., 1935, **29,** 88, ab.

— *niger*, formation of fatty acids by. Schmidt, C. F., 1935, **30,** 445, ab.

— — yeast-growth stimulant production by. Schopmeyer, H., and Fulmer, E. I., 1931, **22,** 23

— *parasiticus*, proteinase and aminopolypeptidase of. Johnson, M. J., and Peterson, W. H., 1935, **29,** 90, ab.

Association, physiological studies of. Sanborn, J. R., 1926, **12,** 343

Asthma, bronchial, elective localization in the bronchial musculature of streptococci from the sputum of cases of. Oftedal, S., 1916, **1,** 585, ab.

aureus, see Staphylococcus

Autoclave, sterilizing measured amounts of water in. Noyes, H. A., 1918, **3,** 537

Autolysed bacteria, antigenic properties of. Robinson, G. H., 1916, **1,** 115, ab.

Autolysis, bacterial. Sturges, W. S., and Rettger, L. F., 1922, **7,** 551

— in sterile tissues, effect on subsequent bacterial decomposition. Gibbons, N. E., and Reed, G. B., 1930, **19,** 73

— of anaphylactic and immune tissues. Manwaring, W. H., and Oppenheimer, R., 1916, **1,** 683, ab.

Autopsies, 186 human, bacteriological findings with special reference to anaerobic bacilli. Hall, I. C., 1930, **19,** 28, ab.

Autosensitized vaccines. Wohl, M. G., 1916, **1,** 570, ab.

Autoserum injections in skin diseases. Gottheil, W. S., 1916, **1,** 570, ab.

avicida, see Bacterium

Avian psittacosis, Meyer, K. F., and Eddie, B., 1935, **29,** 67, ab.

Avian tubercle bacilli, persistence of, in soil and in association with soil microörganisms. Rhines, C., 1935, **29,** 299

avisepticus, see Bacterium

Azochloramid, a new selective bactericidal chlorine compound. Schmelkes, F. C., Marks, H. C., Romans, I. B., Horning, E. S., and Guiteras, A. F., 1934, **27,** 36, ab.

— (N-N-dichloroazodicarbonamidine), bactericidal action of. Schmelkes, F. C., and Horning, E. S., 1935, **29,** 323

Azotobacter and cellulose decomposing organisms, explanation of the action of the so-called accessory substances in the association of. Skinner, C. E., 1930, **19,** 149

— *chroococcum* Beij. Bonazzi, A., 1921, **6,** 331

— — Beijerinckii and Vinelandii types, physiological study. Yamagata, U., and Itano, A., 1923, **8,** 521

— —, can it synthesize vitamin D.? Greaves, J. E., 1935, **30,** 143

— — influence of upon the physiological activities of cellulose destroyers. Sanborn, J. R., and Hamilton, W. B., 1929, **18,** 169

— — occurrence of a strain of, which does not ferment mannitol. Smith, N. R., 1935, **30,** 323

— — of Beijerinck, gum production by,

composition of gum. Hamilton, W. B., 1931, **22,** 249
Azotobacter chroococcum physiological study; influence of vitamine B (?) and nucleic acid on Azotobacter. Itano, A., 1923, **8,** 483
— colonies in soil, method for determining number of. Curie, I. H., and Batchelor, H. W., 1930, **19,** 40, ab.
— fatty acids as sources of energy for. Gainey, P. L., 1928, **15,** 21, ab.
— growth of. Jones, D. H., 1920, **5,** 325
— influence of fixed nitrogen on. Burk, D., and Lineweaver, H., 1930, **19,** 389
— in Hawaiian soils. Burgess, P. S., 1916, **1,** 676, ab.
— nitrogen fixation by, mechanism of, specific influence of acidity on. Burk, D., Lineweaver, H., and Horner, C. K., 1934, **27,** 325
— preliminary investigation of occurrence and distribution of, in Iowa soils. Martin, W. P., and Walker, R. H., 1935, **30,** 332, ab.
— strain variation and the utilization of carbon compounds. Smith, N. R., 1934, **27,** 54, ab.
— test, soil plaque, for soil deficiency. Jones, D. H., 1932, **23,** 77, ab.
— variation of strains in utilization of carbon compounds. Smith, N. R., 1934, **27,** 54, ab.

B

Bacilli, phases in growth in size measured from motion pictures. Bayne-Jones, S., and Adolph, E. F., 1932, **23,** 14, ab.
Bacillus albolactis, effect of various substances upon fat production by. Sparrow, J. C., 1933, **25,** 36, ab.
— *anthracis*, bacteriophage for. Cowles, P. B., 1931, **21,** 161
— — influence of putrefactive gases on. Andrjevski, P., 1928, **16,** 151
— *coagulans*, observations on. Sarles, W. B., and Hammer, B. W., 1932, **23,** 301
— *cereus*, effect of reaction of medium on characteristics of. Stearn, E. W., and Stearn, A. E., 1933, **26,** 57
— *epilepticus*. Reed, C. A. L., 1916, **1,** 582, ab.
— genus, a new species belonging to. Goresline, H. E., 1934, **27,** 72, ab.
— *megatherium*, antigen of, and its relation to toxin. Warden, C. C., Connell, J. T., Holly, L. E., 1921, **6,** 103
— — cytological changes during the formation of the endospore in. Bayne-Jones, S., and Petrilli, A., 1933, **25,** 261
— — effect of various substances upon fat production by. Sparrow, J. C., 1933, **25,** 36, ab.
— — growth of in relation to free oxygen and the oxidation-reduction character of the medium. Knaysi, G., and Dutky, S. R., 1933, **25,** 30, ab.
— — growth of in relation to the oxidation-reduction potential and the oxygen content of the medium. Knaysi, G., and Dutky, S. R., 1934, **27,** 109
— — morphological and cultural studies with special reference to dissociation. Knaysi, G., 1933, **26,** 623
— — observations on certain variants of. Knaysi, G., 1935, **29,** 389
— — principles of morphological variation of. Rettger, L. F., and Gillespie, H. B., 1935, **30,** 213
— — some effects of salt on the morphology of. Smith, O. A., 1933, **25,** 49, ab.
— — spore formation in as shown by motion pictures. Bayne-Jones, S., and Petrilli, A., 1932, **23,** 45, ab.
— — variation of cell morphology of. Rettger, L. F., and Gillespie, H. B., 1935, **29,** 213
— *mesentericus*, variation and filtrability studies. Flynn, C. S., and Rettger, L. F., 1934, **28,** 1

Bacillus mycoides, cell inclusions and endospore formation in. Lewis, I. M., 1934, **28**, 133
— — dissociation and life cycle of. Lewis, I. M., 1932, **24**, 381
— — effect of physical environment on cultural character. Hastings, E. G., and Sagen, H. E., 1933, **25**, 39, ab.
— — effect of various substances on fat production by. Sparrow, J. C., 1933, **25**, 36, ab.
— — Flügge, rate at which spores of, suspended in peptone solution, become stainable. Brunstetter, B. C., and Magoon, C. A., 1934, **27**, 27, ab.
— — physiology of spore production in. Brunstetter, B. C., and Magoon, C. A., 1931, **21**, 33, ab., 1932, **24**, 85
— — secondary colonies of bacteria with special reference to. Lewis, I. M., 1933, **25**, 359
— new species of the genus, exhibiting mobile colonies on the surface of nutrient agar. Roberts, J. L., 1935, **29**, 229
— *pasteuri*, description of strains, from manure. Gibson, T., 1934, **28**, 295
— — group. Description of strains isolated from soils and manures. Gibson, T., 1934, **28**, 295
— — group, investigation of. Systematic relationships of the group. Gibson, T., 1935, **29**, 491
— — group. Special physiology of the organisms. Gibson, T., 1934, **28**, 313
— *phytophthorus*, filtrable form of, fivefold technic for producing. Quirk, A. J., 1932, **23**, 29, ab.
— *rotans* (n. sp.), mobile colonies of. Roberts, J. L., 1935, **29**, 229
— *subtilis*, cell structure and cell division. Knaysi, G., 1930, **19**, 113
— — effect of reaction of the medium on the characteristics of. Stearn, E. W., and Stearn, A. E., 1933, **26**, 37
— — inhibition of growth of, on a modified extract agar by x-radiation of the medium. Blank, I. H., and Kersten, H., 1935, **30**, 21
— — inhibition of growth of, by ultraviolet irradiated carbohydrates. Blank, I. H., and Arnold, W., 1935, **30**, 507
— — microbic dissociation in. Soule, M. H., 1927, **13**, 41, ab
— — spore formation by as influenced by peptone concentration. Williams, O. B , 1930, **19**, 11, ab.
— — spores, action of radiation in the extreme ultra-violet on. Blank, I. H., and Arnold, W., 1935, **30**, 503
— *vulgatus*, variation and filtrability studies. Flynn, C. S., and Rettger, L. F., 1934, **28**, 1
Bacteremia after appendicitis, an organism isolated from three cases of. Weiss, E., 1929, **17**, 60, ab.
Bacteria, actinomyces and fungi in soils. Waksman, S. A., 1916, **1**, 101, ab.
— aciduric mouth, and dental caries. Anderson, T. G., 1935, **30**, 211 ab.
— agar digesting. Goresline, H. E., 1935, **30**, 445, ab.
— amorphous phases of. Broadhurst, J., 1933, **25**, 545
— anaerobic, classification of. Heller, H. H., 1921, **6**, 521
— certain, action on some simple triglycerides and natural fats, as shown by Nile-blue sulphate. Collins, M. A., and Hammer, B. W., 1934, **27**, 473
— certain, resistance to ultraviolet radiation of vegetative and spore stages as contrasted with that of a plant virus. Duggar, B. M., and Hollaender, A., 1934, **27**, 241
— changing. Winslow, C.-E. A., 1932, **23**, 26, ab.
— continuous method of culturing for chemical study. Moyer, H. V., 1929, **18**, 59
— cultural requirements of. Quantita-

tive estimation of bacterial growth. Mueller, J. H., 1935, **29,** 383
Bacteria, cultural requirements of. The diphtheria bacillus. Mueller, J. H., 1935, **29,** 515
— cultural requirements of. The diphtheria bacillus. Mueller, J. H., 1935, **30,** 513
— cultural requirements of. Amino acid requirements for the Park-Williams No. 8 strain of diphtheria. Mueller, J. H., and Kapnick, I., 1935, **30,** 525
— effect of reaction of medium on characteristics of. General presentation; results obtained with *Bacillus coli-communior*, *Salmonella enteritidis* and *Pseudomonas pyocyanea*. Stearn, E. W., and Stearn, A. E., 1933, **26,** 9
— effect of reaction of medium on characteristics of. Behavior of *Bacillus subtilis*. Stearn, E. W., and Stearn, A. E., 1933, **26,** 37
— effect of reaction of medium on characteristics of. Behavior of *Bacillus cereus*. Stearn, E. W., and Stearn, A. E., 1933, **26,** 57
— enzymes of, and bacterial metabolism. Virtanen, A. I., 1934, **28,** 447
— families and genera, chart of. Macy, H., 1921, **6,** 575
— freshwater, studies of. Stalked bacteria, a new order of Schizomycetes. Henrici, A. T., and Johnson, D. E., 1935, **30,** 61
— in vacuo preservation. Brown, J. H., 1932, **23,** 44, ab.
— in the muscular tissues and blood of apparently normal animals. Reith, A. F., 1926, **12,** 367
— interchange between the fresh water and the sea. Burke, V., 1934, **27,** 201
— life cycles of. Löhnis, F., and Smith, N. R., 1916, **1,** 704, ab.
— living and dead, differentiation by staining reactions. Gay, F. P., and Clark, A. R., 1934, **27,** 175
— newly described species, importance of preserving the original types. Winslow, C.-E. A., 1921, **6,** 133
— non-lactose-fermenting, isolated from the stools of healthy food-handlers, comparative bacteriological study. Kriebal, R. M., 1934, **27,** 357
— non-spore-forming, growing pure cultures from single cells of. Wright, W. H., and Nakajima, H., 1929, **17,** 10, ab.
— non-spore-forming, heat resistance of, influence of age of culture on. Robertson, A. H., 1928, **15,** 27, ab.
— rate of growth of a colony. Rogers, L. A., and Greenbank, G. R., 1929, **17,** 2, ab.
— relation of electrical charge to stability. Abramson, H. A., 1934, **27,** 89, ab.
— spore-forming, cultivated from so-called herpetic and encephalitis viruses. Evans, A. C., 1927, **13,** 27, ab.
— spore-bearing, non-pathogenic, aerobic. Ford, W. W., 1916, **1,** 273
— stalked, new order of *Schizomycetes*. Henrici, A. T., and Johnson, D., 1935, **29,** 3, ab.
— types of lipolysis brought about by, as shown by Nile-blue sulphate. Collins, M. A., and Hammer, B. W., 1934, **27,** 487
— types of on blood and chocolate agar, cause of types. Leifson, E., 1932, **24,** 473
— various, comparison of maximal growth of, under optimal conditions. Mason, M. M., 1935, **29,** 103
— various pure cultures, production of hydroxylamine by the reduction of nitrates and nitrites by. Lindsey, G. A., and Rhines, C. M., 1932, **24,** 489
— young and old cells of, physiological

difference between. Stark, C. N., and Stark, P., 1929, **17**, 2, ab.
Bacteriaceae, subgroups and genera of. Buchanan, R. E., 1918, **3**, 27
Bacterial activities of the soil, effect of barnyard manure and water upon. Greaves, J. E., and Carter, E. G., 1916, **1**, 676, ab.
— — — effect of time and depth of cultivation of a wheat seed bed upon. Gainey, P. L., 1916, **1**, 676, ab.
Bacterial cells, microscopic method of distinguishing dead from living. Knaysi, G., 1935, **30**, 193
Bacterial counts, averaging. Robertson, A. H., 1932, **23**, 123
Bacterial flora, soil protozoa and their relation to. Sherman, J. M., 1916, **1**, 98, ab.; **35**, 165
Bacterial nutrition, further studies on: the utilization of proteid and non-proteid nitrogen. Rettger, L. F., Berman, N., and Sturges, W. S., 1916, **1**, 15
Bacterial-inhibitory substance, some properties of, produced by mold. Reid, R. D., 1935, **29**, 215
Bacterial system, natural, main lines of. Orla-Jensen, S., 1921, **6**, 263
Bactericidal principle in excretion of surgical maggots. Simmons, S. W., 1935, **30**, 253
— properties of the quarternary salts of hexamethylenetetramine. Jacobs, W. A., 1916, **1**, 460, ab.
Bacteriemia, analysis of one hundred and thirty-four cases. Warren, M., and Herrick, W. W., 1916, **1**, 467, ab.
Bacterins, treatment of typhoid fever with. Waitzfelder, E., 1916, **1**, 253, ab.
Bacteriological technic, report of committee. Investigation of American gentian violets. Conn, H. J., chairman, 1922, **7**, 529
Bacteriologist, problems in his relation to medicine and public health. Zinsser, H., 1927, **13**, 147.
Bacteriology and its relation to other sciences. Rettger, L. F., 1918, **3**, 103
— and medicine, reciprocal effects of relationship. Bayne-Jones, S., 1931, **21**, 61
— and pathology, mesozoic. Moodie, R. L., 1916, **1**, 384, ab.
— application of statistics to problems in. Experimental comparison of the dilution method, the plate count, and the direct count for the determination of bacterial population. Ziegler, N. R., and Halvorson, H. O., 1935, **29**, 609
— as a cultural subject. Broadhurst, J., 1927, **13**, 70, ab.
— beginnings in the Middle West. Trealease, W., and Birge, E. A., 1926, **11**, 86, ab.
— biological approach to. Brown, J. H., 1932, **23**, 1
— early instructors in the United States. Bergey, D. H., 1917, **2**, 595
— early instructors in the United States. Addenda. Hastings, E. G., and Morrey, C. B., 1918, **3**, 307
— general, course in for the college student. Darling, C. A., 1935, **30**, 445, ab.
— —, method of conducting a course in. Bergey, D. H., 1926, **13**, 69, ab.
— —, methods in teaching. Hunter, C. A., 1927, **13**, 69, ab.
—, marine, special methods in, and preliminary surveys in Pacific waters. Gee, H., 1930, **19**, 11, ab.
— pedagogics of. Bergey, D. H., 1916, **1**, 5
— postmortem. Hunt, H. F., 1935, **30**, 654, ab.
— soil, direction of. Conn, H. J., 1933, **25**, 52, ab.
— some pitfalls in. Frobisher, M., Jr., 1933, **25**, 565

Bacteriology, some questions of method in. Hastings, E. G., 1924, **9**, 95
— statistics in. Accuracy of dilution data obtained by using several dilutions. Halvorson, H. O., and Ziegler, N. R., 1933, **26**, 559
— systematic, present status. Breed, R. S., 1928, **15**, 143
— teaching in a college of liberal arts. Genung, E. F., 1927, **13**, 69, ab.
— the genesis of a new science. Sedgwick, W. T., 1916, **1**, 1
Bacteriolysants, nature of. Davison, W. C., 1922, **7**, 491
— properties of. Davison, W. C., 1922, **7**, 475
Bacteriolysins, hepatic. Manwaring, W. H., Coe, H. C., 1916, **1**, 687, ab.
Bacteriolytic agent, d'Herelle's phenomenon, etc., nature of bacteriolysants. Davison, W. C., 1922, **7**, 475, 491.
— principle, isolation from the root nodules of red clover. Hitchner, E. R., 1929, **17**, 19, ab.; 1930, **19**, 191
Bacteriophage, a coccoid form of *C. diphtheriae* susceptible to. Stone, F. M., and Hobby, G. L., 1934, **27**, 403
— active against a hemolytic streptococcus. Clark, P. F., and Clark, A. S., 1926, **11**, 89, ab.
— active against a thermophilic bacillus. Koser, S. A., 1927, **13**, 14, ab.
— and chemical disinfectants, toxicity and germicidal action as compared by an in vivo test. Walker, J. E., 1930, **19**, 22, ab.
— and variation in streptococcus colony formation. Dutton, L. O., 1927, **13**, 43, ab.
— artificial production of a specific lytic agent which behaves like. LeMar, J. D., and Myers, J. T., 1934, **27** 49, ab.
— as a factor in the recovery from streptococcus infection. Dutton, L. O., 1927, **13**, 44, ab.
— as a precursive agent in the development of organisms causing ropy milk. Stark, C. N., and Stark, P., 1932, **23**, 59, ab.
— as a substitute for typhoid vaccine. Larkum, N. W., 1929, **17**, 42, ab.
— *Bacillus diphtheriae* in its relation to. Smith, G. H., and Jordan, E. F., 1931, **21**, 75
— Comparison of the action of lytic agents and bacteriophages upon pyocyaneus cultures. Rabinowitz, G., 1934, **28**, 237
— content of sewage and its action upon bacterial organisms. Beckwith, T. D., and Rose, E. J., 1930, **20**, 151
— d'Herelle's phenomenon, etc., nature of bacteriolysants. Davison, W. C., 1922, **7**, 475, 491
— effect of massive and repeated doses. Larkum, N. W., and Corpron, R., 1933, **25**, 77, ab.
— effect of phenyl mercuric chloride on. Goldsmith, N. R., 1935, **30**, 237
— electrical charge of. Clifton, C. E., and Madison, R. R., 1931, **22**, 255
— factors in preparation of Keller, M., 1931, **22**, 199
— filtration of. Larkum, N. W., and Semmes, M. F., 1930, **19**, 213
— for *B. anthracis*. Cowles, P. B., 1931, **21**, 161
— for *Cl. tetani*. Cowles, P. B., 1934, **27**, 163
— induced, quantitative occurrence and mechanism of formation. Stark, C. N., Stark, P. W., and Gordon, R., 1932, **23**, 18, ab.
— in relation to *Salmonella pullora* infection in domestic fowl. Pyle, N. J., 1926, **12**, 245
— method of staining lytic areas produced by. Hadley, P., 1924, **9**, 405
— nascent, effect on beta hemolytic streptococci. Evans, A. C., 1935, **29**, 40, ab.

Bacteriophage nature of. Bronfenbrenner, J., 1930, **19,** 19, ab.
— old stock cultures as a source of. Mallmann, W. L., 1925, **10,** 59
— of d'Herelle: therapeutic applications. Beckerich, A., and Hauduroy, P., 1923, **8,** 163
— phenomena. Kuttner, A. G., 1923, **8,** 49
— quantitative study of the respiration of staphylococcus cultures lysed by. Eaton, M. D., Jr., 1931, **21,** 143
— recovery of from filtrates derived from heated spore-suspensions. Cowles, P. B., 1931, **22,** 119
— Relation of bacteriophage and other lytic agents to negative stool cultures. Study of two cases. Rabinowitz, G., 1934, **28,** 221
— relation of digestive enzymes and ferments to. McKinley, E. B., 1923, **8,** 543
— rôle in streptococcus infections. Dutton, L. O., 1926, **11,** 89, ab.
— specific behavior of. Levine, P., and Frisch, A. W., 1935, **29,** 67, ab.
— staphylococcus, adaptation of, to an artificially produced anti-staphylococcus bacteriophage serum. Rakieten, M. L., 1934, **27,** 50, ab.
— stimulation of bacterial metabolism by. Bronfenbrenner, J., 1933, **25,** 25, ab.
— streptococcus, and its usefulness for the identification of strains of hemolytic streptococci. Evans, A. C., 1934, **27,** 49, ab.
— therapeutic use in renal infection, cases of. Larkum, N. W., 1926, **12,** 203
— therapy, critical consideration of, in staphylococcus infections. Colvin, M. G., 1935, **30,** 446, ab.
Bacteriophages and lytic agents, comparison of action of on pyocaneus cultures. Rabinowitz, G., 1934, **28,** 237
Bacteriophagy in urinary infection. Bacteriophagy of the bladder. Larkum, N. W., 1926, **12,** 225
— of a spore-forming organism. Cowles, P. B., 1930, **20,** 15
— in urinary infection. The incidence of bacteriophage and of *B. coli* susceptible to dissolution by the bacteriophage in urines. Presentation of cases of renal infection in which bacteriophage was used therapeutically. Larkum, N. W., 1926, **12,** 203
Bacteriostasis, dye, compound formation of crystal violet with nucleic acid and gelatin and its significance in. Stearn, A. E., 1930, **19,** 133
— dye, conditions and reactions defining. Stearn, E. W., and Stearn, A. E., 1926, **11,** 345
— problem of. Stearn, A. E., and Stearn, E. W., 1924, **9,** 491
Bacteriostatic action of gentian violet and its dependence on the oxidation-reduction potential. Ingraham, M. A., 1933, **26,** 573
— — of gentian violet, relation between oxidation-reduction potential of the medium. Ingraham, M. A., and Fred, E. B., 1933, **25,** 23, ab.
— effect of indol and skatol. Sandholzer, L. A., and Tittsler, R. P., 1934, **27,** 28, ab.
Bacterium abortivo-equinus, action of eight strains of, on certain of the carbohydrates. Fitch, C. P., and Billings, W. A., 1920, **5,** 469
— — gas-production by different strains of. Good, E. S., and Corbett, S. S., 1916, **1,** 681, ab.
— *abortus equinus*, maintenance of virulence of. Good, E. S., and Smith, W. V., 1916, **1,** 249, ab.
— *acidilactici*, acid production and respiratory catalysts of. Blanchard, K. C., 1935, **30,** 442, ab.
— *acidi-propionici* δ and other lactate-fermenting bacteria of Swiss

cheese. Frazier, W. C., and Wing, H. U., 1932, **23**, 60, ab.
Bacterium actinoides, antisera for reaction of. Nelson, J. B., 1933, **26**, 321
— — variety *muris*, biological characters. Nelson, J. B., 1931, **21**, 183
— *actinomycetum-comitans*, note on. Bayne-Jones, S., 1925, **10**, 569
— *aerogenes*, and *Escherichia coli*, acid production by. Syrocki, A. V., and Fuller, J. E., 1935, **30**, 211, ab.
— — and *B. coli* in nature, relative persistence. I. In decayed stumps. Tonney, F. O., and Noble, R. E., 1931, **22**, 433
— — and *Escherichia coli*, rapid methods for distinguishing. Lindsey, G. A., and Meckler, C. M., 1932, **23**, 115
— — biological position of in Mucosus-capsulatus group. Grant, C. W., and Rettger, L. F., 1933, **25**, 42, ab.
— — effect of environment on the characteristics and viability of. Kulp, W. L., 1932, **24**, 317
— — fate in sewage purification. Heukelekian, H., 1927, **14**, 55
— — fixation of nitrogen by. Skinner, C. E., 1928, **15**, 9, ab.
— — relationships of the encapsulated bacilli with special reference to. Edwards, P. R., 1929, **17**, 339
— *aertrycke*, serological variant of, isolated from pigeons. Edwards, P. R., 1935, **30**, 465
— — (var. *meleagridis*), attempts to demonstrate a specific toxin in. Cameron, R., and Rettger, L. F., 1934, **27**, 86, ab.
— *anatum*, antigens of. Edwards, P. R., 1935, **30**, 269
— *avicida*, action of ultra violet light on antigenic properties of. Bushnell, L. D., 1926, **11**, 107, ab.
— — effect of oral and subcutaneous injections of in rabbits vaccinated by the oral and intravenous methods. Barnes, LaV., 1929, **17**, 40, ab.
— — vaccination against by oral, subcutaneous, and intravenous methods, comparison of effectiveness. Barnes, LaV., 1928, **15**, 43, ab.
— *aviseptícus*, relation between sucrose-fermentation and immunizing power by. Hadley, P., Caldwell, D. W., and Heath, B. M., 1919, **4**, 68
— — toxins of. Hadley, P., 1918, **3**, 277
— *boviseptica*, simple mineral mixture agar for cultivation of. Scott, J. P., 1930, **20**, 9
— *bronchisepticus* and *Coccobacillus foetidus-ozaenae* comparative study. Ferry, N. S., and Noble, A., 1918, **3**, 499
— — relationship to *B. pertussis*. Cultural agglutination and absorption reactions. Ferry, N. S., and Noble, A., 1918, **3**, 193
— — relationship to *B. pertussis*. Complement fixation tests. Ferry, N. S., and Klix, H. C., 1918, **3**, 309
— *coli*, a large-celled dissociative form and its relation to the so-called Pettenkofer bodies. Hussong, R. V., 1933, **25**, 537
— — and *Aerobacter aerogenes*, acid production by. Syrocki, A. V., and Fuller, J. E., 1935, **30**, 211, ab.
— — and *B. aerogenes* in nature, relative persistence. I. In decayed stumps Tonney, F. O., and Noble, R. E., 1931, **22**, 433
— — and *Aerobacter aerogenes*, study in the differentiation of, by the bacteriostatic action of organic dyes. Halbert, V. A., 1935, **30**, 653, ab.
— — and *B. typhi*, creatinine production by. Sears, H. J., 1917, **2**, 187
— — and *B. welchii* groups, the presence of the in the intestinal tract of fish (*Stenomous chrysops*). Browne, W. W., 1917, **2**, 417

Bacterium coli and three of its rough variants, chemical-biological study of. Rennebaum, E. H., 1935, **30**, 625
— — appearance of agglutinins for in sera of normal rabbits, effect of oral administration of ox-bile on. Barnes, LaV. 1929, **17**, 40, ab.
— — atypical (slow) lactose fermenting. Jones, F. S., Orcutt, M., and Little, R. B., 1932, **23**, 267
— — bile compared with lactose bouillon for determining the presence of in water. Obst, M. M., 1916, **1**, 73
— — colonial variations on solid media with especial reference to the production of rough colonies. Hunter, C. A., 1931, **21**, 13, ab.
— — comparison of Eijkman test with other tests for determining in sewage. Hajna, A. A., and Perry, C. A., 1935, **30**, 479
— — comparison of liquid media for quantitative enumeration of, by the dilution method. Skinner, C. E., 1935, **30**, 331, ab.
— — comparative study of certain media used in presumptive tests for. Horwood, M. P., and Heifetz, A., 1934, **28**, 199
— — confirmatory tests for in routine water examinations. Frost, W. H., 1916, **1**, 565, ab.
— — differentiation from *Aerobacter aerogenes*, two rapid methods for. Lindsey, G. A., and Meckler, C. M., 1932, **23**, 115
— — differentiation from lactose fermenting anaerobes. Kahn, R. L., 1918, **3**, 561
— — effect of a specific environment on the characteristics and viability of several strains. Kulp, W. L., 1932, **24**, 317
— — effect of hydroxyl ion concentration on thermal death rate. Myers, R. P., 1928, **15**, 341
— — effects of sodium and calcium chlorides upon viability of. Winslow, C.-E. A., and Falk, I. S., 1923, **8**, 237
— — effect of sodium ricinoleate as a surface tension depressant upon growth of. Albus, W. R., 1927, **13**, 7
— — effect of some electrolytes on the buffering capacity of. Shaughnessy, H. J., and Falk, I. S., 1924, **9**, 559
— — effects of temperature and hydrogen ion concentration upon viability of in water. Cohen, B., 1922, **7**, 183
— — fate in sewage purification. Heukelekian, H., 1927, **14**, 55
— — from human feces, failure to grow at 46° in the Eijkman or Bulír tests. Skinner, C. E., and Brown, J. W., 1934, **27**, 191
— — found in candy, nuts as a possible source of. Weinzirl, J., 1929, **17**, 29, ab.
— — group, appearances produced by in blood agar. Paulson, M., and Brown, J. H., 1932, **23**, 38, ab.
— — group isolated from various sources, a comparison of the acid production of. Browne, W. W., 1916, **1**, 124, ab.
— — group, electrophoretic potential as aid in identifying strains of. Chapman, G. H., 1929, **18**, 339
— — growth of in relation to H-ion concentration. Sherman, J. M., and Holm, G. E., 1922, **7**, 465
— — hemolytic, relation to normal intestine and ulcerative colitis. Nicholls, E. E., 1935, **29**, 35, ab.
— — hexosidases of. Hotchkiss, M., 1935, **29**, 391
— — in broth, effect of temperature on the rate of growth of. Jennison, M. W., and Bunker, J. W. M., 1932, **23**, 52, ab.
— — in ice cream. Anzulovic, J. V., 1932, **23**, 56, ab.
— — in milk, gentian violet in presump-

tive test for. Hall, I. C., and Ellefson, L. J., 1918, **3,** 355
Bacterium coli in milk, gentian violet lactose pepton bile for detection of. Kessler, M. A., and Swenarton, J. C., 1927, **14,** 47
— — in privately owned rural water supplies. France, R. L., 1933, **25,** 623
— — in water, elimination of spurious presumptive tests by the use of gentian violet. Hall, I. C., and Ellefson, L. J., 1918, **3,** 329
— — in water, irregularities in the test for. Thompson, R. E., 1927, **13,** 209
— — indol production by *B. typhosus* and. Zunz, E., and György, P., 1916, **1,** 627
— — induced variations in the cultural characters of. Smirnow, M. R., 1916, **1,** 385
— — influence of calcium and sodium salts at various hydrogen ion concentrations upon viability of. Winslow, C.-E. A., and Falk, I. S., 1923, **8,** 215
— — isolated from oat hay, effect on horses of feed heavily inoculated with. Graham, R., and Himmelberger, L. R., 1916, **1,** 115, ab.
— — medium for differentiating *B. typhosus*, *B. paratyphosus* A and B, *B. enteritidis* and. Morishima, K.-I., 1918, **3,** 19
— — *mutabile* (Neisser and Massini), sexual cycle of *B. coli* and. Mellon, R. R., 1925, **10,** 579
— — natural and acquired resistance of certain strains to the bacteriostatic and germicidal effects of cations. Borman, E. K., 1932, **23,** 315
— — nature of reaction on Endo medium. Kahn, R. L., 1918, **3,** 547
— — pathogenic bovine strain, hemolytic reactions of. Orcutt, M. L., 1928, **16,** 123
— — oxidation-reduction potentials and ferricyanide reducing activities in glucose-peptone cultures and suspensions of. Clifton, C. E., and Cleary, J. P., 1934, **28,** 561
— — oxidation-reduction potentials and ferricyanide reducing activities in peptone cultures and suspensions of. Clifton, C. E., Cleary, J. P., and Beard, P. J., 1934, **28,** 541
— — presumptive test, the value of lactose bile for. Bunker, J. W. M., 1916, **1,** 85, ab.
— — production and collection in quantity on synthetic media. Bengis, R., 1916, **1,** 576, ab.
— — rate of growth and viability in. Sherman, J. M., and Cameron, G. M., 1934, **27,** 23, ab.
— — relation of changes in morphology and metabolism in. Lange, W. F., 1933, **25,** 123
— — relative efficiency of various methods of sterilization of milk utensils in the destruction of. Lochhead, A. G., and Johns, C. K., 1933, **25,** 62, ab.
— — sexual cycle of in relation to the origin of variants with special reference to Neisser and Massini's *B. coli-mutabile*. Mellon, R. R., 1925, **10,** 579
— — simplified confirmatory test for. Kahn, R. L., 1918, **3,** 555
— — susceptible to dissolution by the bacteriophage, incidence of in urines. Larkum, N. W., 1926, **12,** 203
— — suspensions, effect of "low voltage" X-rays on the electrophoretic migration velocity, viability and pH of. Dozois, K. P., Tittsler, R. P., Lisse, M. W., and Davey, W. P., 1932, **24,** 123
— — test results, interpretation on a numerical and comparative basis, as applied to the investigation of water and sewage. Stein, M. F., 1919, **4,** 243
— — the use of a three per cent lactose

litmus agar plate for the demonstration of in water examination. Meyer, E. M., 1917, **2**, 237
Bacterium coli, use as index of pasteurization of milk. Swenarton, J. C., 1927, **13**, 419
— — value of presumptive tests for, based on the routine use of lactose bile and lactose broth. Ritter, N., 1919, **4**, 609
— — variation of. Bergstrand, H., 1923, **8**, 173
— — *communior*, effect of certain triphenyl methane dyes on. Reed, M. V., and Genung, E. F., 1934, **27**, 29, ab.
— — *communior*, effect of the reaction of the medium on characteristics of. Stearn, E. W., and Stearn, A. E., 1933, **26**, 9
— — hexosidases of. Hotchkiss, M., 1935, **29**, 391
— — *communis* and *B. dysenteriae* Shiga, cross-agglutination of. Kligler, I. J., 1918, **3**, 441
— *dysenteriae*, Endo medium for isolation of and double sugar medium for differentiation of, Shiga and Flexner. Kligler, I. J., and Defandorf, J., 1918, **3**, 437
— — group III, toxins of. Thjøtta, T., and Sundt, O. F., 1921, **6**, 501
— — Shiga and *B. coli communis*, cross-agglutination of. Kligler, I. J., 1918, **3**, 441
— — Sonne, some factors promoting dissociation. Dienst, R. B., 1933, **26**, 489
— — — as influenced by variations in culture medium. Koser, S. A., and Styron, N. C., 1930, **19**, 13, ab.
— — — variation of. Dienst, R. B., and Koser, S. A., 1932, **23**, 23, ab.
— *enteritidis* as the cause of infectious diarrhea in calves. Meyer, K. F., Traum, J., and Roadhouse, C. L., 1916, **1**, 357, ab.
— — effect of the reaction of the medium on the characteristics of. Stearn, E. W., and Stearn, A. E., 1933, **26**, 9
— — gastro-intestinal poison produced by. Branham, S. E., Robey, L., and Day, L. A., 1928, **15**, 36, ab.
— — heredity as a factor in resistance of rats to. Irwin, M. R., 1933, **25**, 93, ab.
— — medium for differentiating *B. typhosus*, *B. paratyphosus* A and B, *B. coli* and. Morishima, K.-I., 1918, **3**, 19
— — soluble antigens of. Branham, S. E., and Humphreys, E. M., 1927, **13**, 46, ab.
— — toxicity of Victoria blue 4 R. for. Teague, O., 1918, **3**, 1
— *equirulis*, rough and smooth variants of. Edwards, P. R., 1932, **24**, 283
— *faeni*, chemical action of on xylose and on sucrose. Breden, C. R., Fulmer, E. I., Werkman, C. H., and Hixon, R. M., 1930, **19**, 41, ab.
— *fusiformis* and related organisms, infectivity and virulence of a filtrable phase in the life history of. Mellon, R. R., 1926, **12**, 279
— — biology of. Pratt, J. S., 1927, **13**, 35, ab.
— — microbic heredity, infectivity and virulence of a filtrable phase of. Mellon, R. R., 1926, **12**, 279
— *gallinarum* and *S. pullorum*, cultural and antigenic studies. May, H. G., and Goodner, K., 1927, **13**, 129
— — reduction of nitrates to nitrites by. Tittsler, R. P., 1930, **19**, 261
— *gintotense* (Castellani): its occurrence in cultures from various sources. Jackson, E. G., 1934, **27**, 86, ab.
— *granulosis*, favorable culture media for the isolation of. Bengtson, I. A., 1934, **27**, 34, ab.
— *hemoglobinophilus canis* (Friedberger). Rivers, T. M., 1922, **7**, 579
— *influenzae*, a light-activated hemoly-

sin produced by. Ward, H. K., 1928, **15,** 51
Bacterium influenzae, type b, interrelation of amount of v-factor and amount of air necessary for growth of, in certain media. Pittman, M., 1935, **30,** 149
— *morgani*. Jordan, E. O., Crawford, R. R., and McBroom, J., 1935, **29,** 131
— *necrophorus* obtained from cows, study of. Orcutt, M. L., 1930, **20,** 343
— *nephritidis-equi*, rough and smooth variants of. Edwards, P. R., 1932, **24,** 283
— *ozenae*, biological classification of. Julianelle, L. A., 1935, **30,** 535
— *paradysenteriae* Sonne, report of 32 cases of dysentery caused by. Nelson, R. L., 1930, **20,** 183
— *paratyphi* B, pleomorphism of. Kritschewski, I. L., and Ponomarewa, I. W., 1934, **28,** 111
— *paratyphosum* B (Aertrycke type), gastro-intestinal poison produced by. Branham, S. E., Robey, L., and Day, L. A., 1928, **15,** 36, ab.
— *paratyphosus* A and B, *B. typhosus*, *B. enteritidis*, and *B. coli*, medium for differentiation. Morishima, K.-I., 1918, **3,** 19
— — — toxicity of Victoria blue 4 R. for. Teague, O., 1918, **3,** 1
— *paratyphosus B.*, food poisoning by. Bernstein, H. S., and Fish, E. S., 1916, **1,** 361, ab.
— — — R and S bacterial types, interconvertibility by homologous immune sera. Soule, M. H., 1928, **15,** 39, ab.
— — infection of lymph glands with. Cole, B. C. S., 1916, **1,** 581, ab.
— *pertussis* and *B. bronchisepticus*, relationship between. I. Cultural agglutination and absorption reactions. Ferry, N. S., and Noble, A., 1918, **3,** 193
— — relationship to *B. bronchisepticus*. II. Complement fixation tests. Ferry, N. S., and Klix, H. C., 1918, **3,** 309
— — comparative study of freshly isolated and stock strains in relation to their antigenic properties. Coffey, J. M., 1934, **27,** 96, ab.
— — cultures, study of by means of animal inoculation. Kendrick, P., and Eldering, G., 1934, **27,** 97, ab.
— — virulence of. Toomey, J. A., 1935, **29,** 34 ab.
— *pneumoniae*, a curious accident due to. Simonds, J. P., 1917, **2,** 245
— — systematic study of the Mucosus-capsulatus group with special reference to the biological position of. Grant, C. W., and Rettger, L. F., 1933, **25,** 42, ab.
— *polygenesis*, three contested types of bacterial growth in. Broadhurst, J., 1933, **25,** 32, ab.
— *pullora* in domestic fowl, bacteriophage in relation to. Pyle, N. J., 1926, **12,** 245
— *pullorum* and *gallinarum*, reduction of nitrates to nitrites by. Tittsler, R. P., 1930, **19,** 261
— — cultural and antigenic studies. May, H. G., and Goodner, K., 1927, **13,** 129
— — effect of temperature upon production of hydrogen sulphide by. Tittsler, R. P., 1931, **21,** 111
— — feeding experiments. Toxicity of infected eggs. Rettger, L. F., Hull, T. G., and Sturges, W. S., 1916, **1,** 455, ab.
— — feeding experiments with. The toxicity of infected eggs. Rettger, L. F., Hull, T. G., and Sturges, W. S., 1916, **1,** 120, ab.
— — fermentation of maltose by. Edwards, P. R., 1928, **15,** 235
— — gas production by. Hadley, P., Caldwell, D. W., and Heath, B. M., 1919, **4,** 65
— — histo-pathology of the intestines in young chicks infected with.

Gage, G. E., and Martin, J. F., 1916, **1**, 553, ab.
Bacterium pullorum infections in birds. Hadley, P., Caldwell, D. W., and Heath, B. M., 1919, **4**, 66
— — relation between electrical charge and agglutinating ability of. Tittsler, R. P., and Lisse, M. W., 1928, **15**, 105
— — Rettger in domestic fowl, bacteriophage in relation to. Pyle, N. J., 1926, **12**, 245
— *pyogenes* associated with a case of multiple arthritis in a hog. Ward, A. R., 1916, **1**, 114, ab.
— — and its relation to suppurative lesions in animals. Ward, A. R., 1917, **2**, 619
— *radiobacter* (Biej.) and closely related organisms, cultural differentiation of. Sagen, H. E., Wright, W. H., and Ricker, A. J., 1929, **17**, 22, ab.
— — as commercial legume inoculant. Leonard, L. T., 1931, **21**, 35, ab.
— — evolution of from mixed cultures of *B.* and *Pseudomonas radicicola*. Richmond, T. E., 1927, **13**, 43
— — identification of, and occurrence in soil. Smith, N. R., 1928, **15**, 20, ab.
— — in reference to commercial legume inoculants. Leonard, L. T., 1931, **21**, 35, ab.
— — physiological characters of. I. Sagen, H. E., Riker, A. J., and Baldwin, I. L., 1934, **28**, 571
— — physiological characters of. II. Hendrickson, A. A., Baldwin, I. L., and Riker, A. J., 1934, **28**, 597
— *salmonicida*, chromogenesis by. Belding, D. L., and Arrowood, J. G., 1929, **17**, 55, ab.
— *schottmuelleri*, growth curve in mixed cultures with *Escherichia coli*. Fulton, M., and Stuart, C. A., 1935, **29**, 18, ab.
— *tularense*, isolation of strains of low virulence for guinea pigs and domestic rabbits from the Rocky Mountain wood tick (*Dermacentor andersoni*). Davis, G. E., Phillip, C. B., and Parker, R. R., 1933, **25**, 87, ab.
— — cultural characteristics of. Downs, C. M., and Bond, G. C., 1935, **30**, 485
— *typhi*, creatinine production by *B. coli* and. Sears, H. J., 1917, **2**, 187
— *typhosum* and other organisms, fate in a segregated vein and in the general circulation of the normal and immunized rabbit. Mills, R. G., and Dack, G. M., 1926, **11**, 107, ab.
— — antigenic relationships of. I. Agglutination. Robinson, E. S., 1923, **8**, 533
— — antigenic relationships of. II. Complement-fixation. Robinson, E. S., 1924, **9**, 409
— — effect of environmental changes on growth, morphology, physiology, and immunological characteristics of. Stuart, C. A., 1924, **9**, 581
— — effects of temperature and hydrogen ion concentration upon viability of in water. Cohen, B., 1922, **7**, 183
— — modification of the brilliant green method of isolating from feces. Rakieten, M. L., and Rettger, L. F., 1926, **11**, 103, ab.
— — survival of intraperitoneally implanted in collodion sacs. Gates, F. L., 1925, **10**, 47
— — viability in ice cream. Prucha, M. J., and Brannon, J. M., 1926, **11**, 27
— *typhosus*, antigenic properties of different strains of. Hooker, S. B., 1916, **1**, 685, ab.
— — culture filtrate, effect of specific sera upon the phenomenon of local skin reactivity to. Shwartzman, G., 1929, **17**, 43, ab.
— — differentiation from *B. paratyphosus* A and B, *B. enteritidis*,

and *B. coli*. Morishima, K.-I., 1918, **3,** 19

Bacterium typhosus, G phase cultures of, infective qualities possessed by. Hadley, P., and Carapetian, H., 1933, **25,** 94, ab.

— — granular and floccular types of agglutination. Gilbert, R., Coleman, M. B., and Laviano, A. B., 1932, **23,** 110

— — indol production by *B. coli* and. Zunz, E., and György, P., 1916, **1,** 627

— — isolation of from feces, brilliant green and a modified Endo's medium in. Robinson, H. C., and Rettger, L. F., 1916, **1,** 707, ab.

— — isolation of from stools, culture medium for. Holt-Harris, J. E., and Teague, O., 1916, **1,** 693, ab.

— — medium for differentiating *B. paratyphosus* A and B, *B. enteritidis*, *B. coli* and. Morishima, K.-I., 1918, **3,** 19

— — rough and smooth variants of, antigenic relationship. Grinnell, F. B., 1932, **23,** 24, ab.

— — sand tube in isolating. Levy, M. D., 1916, **1,** 373, ab.

— — use of glycerin in brilliant green bile for isolation of from feces. Dehler, S. A., and Havens, L. C., 1926, **11,** 104, ab.

— — value of petroleum-ether method for isolation of from feces. Kohn, L. A., and Krumwiede, C., Jr., 1918, **3,** 361

— *violaceus*, pigment of. I. Production, extraction, and purification of violacein. Tobie, W. C., 1935, **29,** 223

Bacteroides, genus, organisms of. Thompson, L., and Henthorne, J. C., 1935, **29,** 5, ab.

— in human feces. Eggerth, A. H., 1935, **30,** 277

Bananas, green, use of in media for the culture of pneumococci. Falk, K. G., Valentine, E., McGuire, G., and Whitney, E., 1932, **23,** 235

Bargen's organism, streptococci compared with. Kessel, J. F., 1935, **29,** 68, ab.

Bases, replaceable, in soil, nitrogen metabolism of bacteria as affected by. Conn, H. J., 1932, **23,** 77, ab.

B.C.G., *see Mycobacterium*

Bean, garden, non-reciprocal interchangeability of nodule bacteria of Wood's clover and. Sears, O. H., and Clark, F. M., 1929, **17,** 20, ab.

— mosaic, cytological and bacteriological investigations of. Nelson, R., 1930, **19,** 22, ab.

— nodule formation on excised roots of. Lewis, K. H., and McCoy, E., 1933, **25,** 55, ab.

Beans, string, "waterless-processed," growth of *Cl. botulinum* in. James, L. H., 1929, **17,** 32, ab.

Beef, slimy, bacteriology of. Prescott, S. C., Hale, J. F., and White, G. E., 1931, **21,** 26, ab.

Beet pulp, thermophilic fermentation of. Werkman, C. H., and Stritar, J., 1932, **23,** 70, ab.

Beets, "black,"—a problem involving stimulation of bacterial growth by iron. Cameron, E. J., 1934, **27,** 60, ab.

Behavior, bacterial, animal and plant, correlation with imposed culture medium environment. Quirk, A. J., 1934, **27,** 47, ab.

Benzoate, preservative action in catsup. Pederson, C. S., and Breed, R. S., 1927, **13,** 59, ab.

Benzylhexamethylenetetraminium salts, substituted, relation between constitution and bactericidal action in. Jacobs, W. A., Heidelberger, M., and Amoss, H. L., 1916, **1,** 460, ab.

Berkefeld filters, motility and size as influencing filterability of bacteria through. Mudd, S., 1923, **8,** 459
— — transport of bacteria through by electroendosmotic streaming. Mudd, S., and Mudd, E. B. H., 1924, **9,** 151
Berkefeld "V" candles, a readily cultivable vibrio filterable through, *Vibrio percolans* (new species). Mudd, S., and Warren, S., 1923, **8,** 447
Besredka, use of "specific wet dressings" for staphylococci according to the method of. Barnes, LaV., 1929, **17,** 41, ab.
Beta hemolytic streptococci associated with septic sore throat epidemics. Hucker, G. J., 1935, **30,** 445, ab.
Beverages, carbonated, viability of the colon-typhoid group in. Koser, S. A., and Skinner, W. W., 1922, **7,** 111
— — yeasts in. McKelvey, C. E., 1926, **11,** 98, ab.
bifermentans, see Clostridium
bifidus, see Lactobacillus
Bile as antigen in serum diagnosis of syphilis. Colosi, N., 1931, **21,** 48, ab.
— brilliant green, for isolation of *B. typhosus* from feces, use of glycerin in. Dehler, S. A., and Havens, L. C., 1926, **11,** 104, ab.
— compared with lactose bouillon for determining the presence of *B. coli* in water. Obst, M. M., 1916, **1,** 73
— gentian violet lactose pepton, for detection of *B. coli* in milk. Kessler, M. A., and Swenarton, J. C., 1927, **14,** 47
Biologic products, efficiency of certain germicides in the preservation of. Malcolm, W. G., 1931, **22,** 403
Biological approach to bacteriology. Brown, J. H., 1932, **23,** 1
Birds, adult, *Bact. pullorum* infections in. Hadley, P., Caldwell, D. W., and Heath, B. M., 1919, **4,** 66
— Coccidia in subepithelial infections of the intestines of. Hadley, P. B., 1917, **2,** 73
— experimental tularemia infection in. Green, R. G., and Wade, E. M., 1929, **17,** 55, ab.
Bismuth as a detector of hydrogen sulphide produced by bacteria, comparison with lead and iron. Zobell, C. E., and Feltham, C. B., 1934, **28,** 169
— sulphite and glucose medium for quantitative estimation of *E. typhi* in water, sewage and sludge. Ruchhoft, C. C., 1935, **29,** 25, ab.
Bizio, Bartolomeo, letter concerning the red-colored polenta. Merlino, C. P., 1924, **9,** 527
Bladder, bacteriophagy of. Larkum, N. W., 1926, **12,** 225
— colon bacillus infection of. Morris, R. T., 1916, **1,** 381, ab.
Blastocystis hominis: its characteristics and its prevalence in intestinal content and feces in South Carolina. Lynch, K. M., 1917, **2,** 369
Blastomycosis, fungi of, infective and taxonomic significance of a newly described ascospore stage for. Mellon, R. R., 1926, **11,** 229
— hominis, genetic origin of the types of fungi found in lesions of. Mellon, R. R., 1926, **11,** 419
— — inquiry into the reason for three diverse morphologic types of infecting fungi in. Mellon, R. R., 1926, **11,** 90, ab.
— systemic, unique lesion of the heart in. Hurley, T. B., 1916, **1,** 376, ab.
Blights, bacterial, of barley and certain other cereals. Jones, L. R., Johnson, A. G., and Reading, C. S., 1916, **1,** 705, ab.
Blood-agar plate for spore-forming anaërobes. Thompson, L., 1926, **11,** 305
— — — use in a large certified milk dairy. Parker, M. E., 1927, **13,** 61, ab.

Blood cells, oxygenated and reduced, action of haematoxins on. Reed, G. B., and Orr, J. H., 1928, **15,** 36, ab.
— corpuscles, protein absorption by. Manwaring, W. H., and Kusama, Y., 1916, **1,** 687, ab.
— culture, post-tonsillectomy, streptococci isolated from. Pratt, J. S., and Gaillard, M. S. B., 1932, **23,** 90, ab.
— cultures, a simple method for. Weston, P. G., 1916, **1,** 256, ab.
— cultures, routine, occurrence of diphtheroids in. Thompson, L., 1931, **21,** 45, ab.
— cultures, six thousand consecutive routine, analysis of. Heeks, W. G., and Famulener, L. W., 1929, **17,** 48, ab.
— differentiation, by multiple immunization. Delves, E., 1935, **29,** 49, ab.
— emetinized, study of the effect of on the typhoid bacillus. Beekman, M., 1916, **1,** 252, ab.
— groups among American Indians. Nigg, C., 1926, **11,** 105, ab.
— — among Polynesians. Nigg, C., 1928, **15,** 42, ab.
— human, seasonal variation in the antitoxin content. Perkins, R. G., Heeren, R., Megrail, E., and Grossman, A. B., 1929, **17,** 49, ab.
— of apparently normal animals, bacteria in. Reith, A. F., 1926, **12,** 367
— of different species, variations in reaction indicated by hemolysis of red blood cells treated with acids or alkalies. Cumming, J. G., 1916, **1,** 462, ab.
— porcine, examination of for *Brucella abortus* agglutinins. Boak, R. A., and Carpenter, C. M., 1930, **19,** 33, ab.
— proteins, syphilitic, characteristics of. Walton, S. T., 1935, **29,** 55, ab.
— serum from convalescent patients, method of securing. Meader, F. M., 1929, **17,** 48, ab.
— — Loeffler's coagulated, comparison with blood serum with the addition of sterile ox gall. Odell, H. R., 1918, **3,** 189
— stream, bacterial invasions of in urology. Hill, J. H., and Seidman, L. R., 1934, **27,** 87, ab.
— — biological and clinical significance of diphtheroids in. Koch, R., and Mellon, R. R., 1930, **19,** 25, ab.
— study of with a new stain. Lemchen, B., 1916, **1,** 374, ab.
— whole, preparation of culture media from. Kelser, R. A., 1916, **1,** 615
Blue-printing directly from agar plates. Broadhurst, J., 1918, **3,** 187
Boas-Oppler bacillus, a study of the. Heinemann, P. G., and Ecker, E. E., 1916, **1,** 435
Body, human, lethal radiation from. Rahn, O., and Barnes, M. N., 1933, **25,** 28, ab.
Bogs, peat, occurrence of microörganisms in, and their rôle in peat formation. Waksman, S. A., and Purvis, E. R., 1932, **23,** 76, ab.
Bonime's modification of Koch's treatment of tuberculosis. Newton, R. C., 1916, **1,** 689, ab.
Bordet-Gengou and Löwenstein's media, utilization as a substitute for guinea pig inoculation in detecting tubercle bacilli in sputum. Mishulow, L., Romano, M., Melman, M., and Kereszturi, C., 1934, **27,** 103, ab.
Bordet-Gengou bacillus, complement fixation reactions of. Olmstead, M. P., and Povitzky, O. R., 1916, **1,** 254, ab.
Bottled waters, bacteria in commercial. Obst, M. M., 1916, **1,** 103, ab.
Botulinum toxin, destruction of by milk bacteria. Sherman, J. M., Stark, C. N., and Stark, P. W., 1928, **15,** 35, ab.
botulinus, see Clostridium

Botulism in cattle. Graham, R., and Schwarze, H. R., 1921, **6**, 69
Bouillon cubes in nutrient media, as a substitute for beef extract or meat. Wyant, Z. N., 1920, **5**, 189
boviseptica, see Bacterium
Brilliant green and a modified Endo's medium in the isolation of *Bacillus typhosus* from feces. Robinson, H. C., and Rettger, L. F., 1916, **1**, 707, ab.
— — bile for isolation of *B. typhosus* from feces, use of glycerin in. Dehler, S. A., and Havens, L. C., 1926, **11**, 104, ab.
— — method of isolating *Bacterium typhosum* from feces, simple modification of. Rakieten, M. L., and Rettger, L. F., 1926, **11**, 103, ab.
Brine pickle fermentation, notes on. Brown, C. W., 1916, **1**, 104, ab.
Brom-thymol-blue, substitution for litmus in routine laboratory work. Baker, H. R., 1922, **7**, 301
Bronchial asthma, elective localization in the bronchial musculature of streptococci from the sputum of cases of. Oftedal, S., 1916, **1**, 585, ab.
bronchisepticus, see Bacterium
Bronchopneumonia of rats, streptothrix in, similar to that in rat-bite fever. Tunnicliff, R., 1916, **1**, 580, ab.
Broth, continuous flow of, growth of bactéria in. Rogers, L. A., and Whittier, E. O., 1930, **20**, 127
— culture filtrates, bacterial-growth-inhibiting substance in. Barnes, L. A., 1931, **21**, 10, ab.
— — filtrates, bacterial growth-inhibiting substance in. Barnes, L. A., 1931, **21**, 395
Brown apparatus for the determination of colorimetric pH. Wright, W. H., and Harding, H. G., 1927, **13**, 10, ab.
Brucella abortus, agglutination titre of milk as an indicator of the presence of. Gilman, H. L., 1931, **21**, 53, ab.
— — agglutinins, examination of porcine blood for. Boak, R. A., and Carpenter, C. M., 1930, **19**, 33, ab.
— — as an etiological factor in infectious abortion in swine. Good, E. S., and Smith, W. V., 1916, **1**, 415
— — biochemical method of differentiation for from *Brucella melitensis-paramelitensis*. Huddleson, I. F., and Abell, E., 1927, **13**, 13, ab.
— — copper sulphate medium for isolation of from milk. Huddleson, I. F., 1931, **21**, 53, ab.
— — infected udders, leucocyte content of milk drawn from. Prouty, C. C., 1934, **27**, 293
— — in guinea pigs, effect of various therapeutic agents on. Carpenter, C. M., and Boak, R. A., 1933, **25**, 88, ab.
— — in human beings. Cooledge, L. H., 1916, **1**, 696, ab.
— — in human beings. Huddleson, I. F., 1926, **11**, 108, ab.
— — in human tonsils. Poelma, L. J., and Pickens, E. M., 1932, **23**, 112, ab.
— — in milk, agglutination test as a means of studying the presence of. Cooledge, L. H., 1916, **1**, 126, ab.
— — lethal temperatures for, with special reference to pasteurization. Carpenter, C. M., and Boak, R. A., 1931, **21**, 54, ab.
— — methods for isolation of, from milk. Fitch, C. P., and Bishop, L. M., 1935, **30**, 332, ab.
— — number of generations necessary for development of power of aerobic growth. Harms, A., 1924, **9**, 273
— — presence and significance of agglutinins for in cow's milk. Cooledge, L. H., 1916, **1**, 117, ab.

Brucella abortus, significance of agglutinins in human sera. Carpenter, C. M., Boak, R., and Chapman, O. D., 1929, **17,** 59, ab.
— — studies in a herd infected with. Incidence of milk infection in a vaccinated herd. Caldwell, D. W., Parker, N. J., and Medlar, E. M., 1934, **27,** 72, ab.
— — thermal death point of. Carpenter, C. M., and Boak, R., 1928, **15,** 41, ab.
— — types isolated from human, bovine, porcine, and equine sources. Plastridge, W. N., and McAlpine, J. G., 1931, **21,** 52, ab.
— — *var. lipolyticus*, the large numbers of which may be found in milk. Evans, A. C., 1917, **2,** 185
— — *melitensis bronchisepticum-alcaligenes* group, metabolism of. Nitrogen metabolism. McAlpine, J. G., and Slanetz, C. A., 1927, **13,** 11, ab.
— cells, biological activity of a few chemical constituents of. Huddleson, I. F., and Hershey, A. D., 1935, **29,** 58, ab.
— genus, agglutination absorption studies on. Plastridge, W. N., 1932, **23,** 111, ab.
— — chemistry of the cellular constituents of. Huston, R. C., Huddleson, I. F., and Hershey, A. D., 1934, **27,** 108, ab.
— — pathogenicity of species of for monkeys. Huddleson, I. F., 1929, **17,** 58, ab.
— group, dissociation of. Mallmann, W. L., and Gallo, F., 1932, **23,** 33, ab.
— groups, variations in the electrophoretic mobilities of. Smith, D. E., and Joffe, E. W., 1934, **28,** 127
— *melitensis* infection in cattle. Boak, R. A., and Carpenter, C. M., 1934, **27,** 73, ab.
— — *paramelitensis*, biochemical method of differentiation from *Brucella abortus*. Huddleson, I. F., and Abell, E., 1927, **13,** 13, ab.
— *suis*, pasteurization of milk artificially infected with two strains of. Park, S. E., Graham, R., Prucha, M. J., and Brannon, J. M., 1932, **24,** 461
Bubble fountain, bacteriology of. Pettibone, D. F., Bogart, F. B., and Clark, P. F., 1916, **1,** 471
Bubbling fountain tests. Berry, J. L., 1916, **1,** 706, ab.
buccalis, see Entameba
Buchanan's formula, application to heat production in bacterial cultures. Wetzel, N. C., 1929, **18,** 117
Buffer index of bacteriological media, hydrogen ions, titration and. Brown, J. H., 1921, **6,** 555
— phosphate, influence in carbohydrate-free and in glucose-containing media. Slanetz, C. A., and Rettger, L. F., 1928, **15,** 297
Bulgarian bacillus in treatment of vulvovaginitis. Cohen, M. B., 1916, **1,** 695, ab.
bulgaricus, see Lactobacillus
Bulfr test, failure of *Bacterium coli* from human feces to grow at 46° in. Skinner, C. E., and Brown, J. W., 1934, **27,** 191
Burrill, Thomas J., In memoriam. Smith, E. R., 1916, **1,** 269
Butter aroma bacteria. Orla-Jensen, S., Orla-Jensen, A. D., and Spur, B., 1926, **12,** 333
— comparative investigations on the microbiological composition and quality. Demeter, K. J., and Maier, F. X., 1931, **21,** 41, ab.
— distribution of bacteria in. Rahn, O., and Boysen, H. H., 1928, **15,** 30, ab.
— pasteurized creamery, contaminated water as a source of surface flavor in. Shutt, D. B., 1929, **17,** 39, ab.

Butter showing surface taint. Derby, H. A., 1930, **19**, 51, ab.
— yeasts and molds in. Parfitt, E. H., 1935, **29**, 69, ab.
Butterfield-Hoskins method. Noble, R. E., and White, J. L., 1935, **29**, 23, ab.
Butyl alcohol, asparagine stimulating bacterial production of. Tatum, E. L., Peterson, W. H., and Fred, E. B., 1935, **29**, 563
— — organism producing, relationship between carbon and nitrogen metabolism of. Wilson, P. W., and Fred, E. B., 1930, **19**, 17, ab.
Butyric acid, anaerobes, fermentation of glucose and arabinose by. Langlykke, A. F., and Fred, E. B., 1935, **29**, 86, ab.
— — — fermentation of glucose and arabinose by. Langlykke, A. F., Peterson, W. H., and McCoy, E., 1935, **29**, 333
— — — an unknown factor stimulating the formation of butyl alcohol by. Tatum, E. L., Peterson, W. H., and Fred, E. B., 1934, **27**, 207
— — — stimulating effect of potato extract on. Tatum, E. L., and Peterson, W. H., 1933, **25**, 26, ab.
— — colorimetric method for determination of. Allgeier, R. J., Peterson, W. H., and Fred, E. B., 1929, **17**, 79
— — fermentations, effect of asparagin and related compounds on. Tatum, E. L., and Peterson, W. H., 1935, **29**, 87, ab.
butyricum, *see Clostridium*
By-products, dairy, pasteurization of. Breed, R. S., and Dotterrer, W. D., 1916, **1**, 106, ab.

C

Cabbage, microörganisms of and their relation to sauerkraut production. Keipper, C. H., and Fred, E. B., 1930, **19**, 53, ab.
Calcium carbonate, precipitation by microörganisms, influence of concentration of soluble calcium on. Williams, F. T., and Fred, E. B., 1934, **27**, 58, ab.
— chlorides, effect on viability of *B. coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8**, 237
— hypochlorite, observations on the types of organisms isolated from water after treatment with. Smeeton, M. A., 1917, **2**, 355
— precipitation by bacteria from mud of a fresh water lake. Williams, F. T., and McCoy, E., 1933, **25**, 57, ab.
— salts at various hydrogen ion concentrations, influence on viability of *B. coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8**, 215
— soluble, influence of concentration of on the precipitation of calcium carbonate by microörganisms. Williams, F. T., and Fred, E. B., 1934, **27**, 58, ab.
— sulphate and elemental sulphur, effect on certain higher and lower forms of plant life. Pitz, W., 1916, **1**, 132, ab.
— sulphite, rôle of variants of certain paratyphoid bacilli in the precipitation of. Caldwell, M. E., 1934, **27**, 121
Calmette-Guerin, Bacillus, (B.C.G.), *see Mycobacterium*
Calorimetry, bacterial. Bayne-Jones, S., and Rhees, H. S., 1929, **17**, 3, ab.
— — general considerations, description of differential microcalorimeter. Bayne-Jones, S., 1929, **17**, 105
— — relationship of heat production to phases of growth of bacteria. Bayne-Jones, S., and Rhees, H. S., 1929, **17**, 123
Calves, digestive tract of, *Bacillus acidophilus* from. Orcutt, M. L., 1926, **11**, 115

Calves, digestive tract of, enterococci from. Orcutt, M. L., 1926, **11,** 129
Cancer, evidence of identity with crown gall of plants. Smith, E. F., 1916, **1,** 577, ab.
— human, relation of crown gall of plants to. Smith, E. F., 1916, **1,** 578, ab.
Candida, fungi from skin in an epidemic of perlèche. Pribram, E., 1930, **19,** 31, ab.
Candy, nuts as a possible source of *Escherichia coli* found in. Weinzirl, 1929, **17,** 29, ab.
canis, Hemophilus, see Bacterium
Canned foods, certain, hydrogen sulfide determination in. Fellers, C. R., Shostrom, O. E., and Clark, E. D., 1924, **9,** 235
Canning of corn, thermophilic contamination in. Cameron, E. J., Williams, C. C., and Thompson, R. J., 1927, **13,** 64, ab.
— of peas, thermophilic contamination in. Cameron, E. J., Williams C. C., and Thompson, R. J., 1927, **13,** 64, ab.
— season of 1928, scope and findings of field work. Cameron, E. J., 1929, **17,** 31, ab.
— sweet corn, bacteria prevalent in. James, L. H., 1927, **13,** 409
— thermophilic flora of sugar and its relation to. Cameron, E. J., and Williams, C. C., 1928, **15,** 31, ab.
Cans, swells of, caused by anaerobic thermophiles. McClung, L. S., 1935, **29,** 189
Capillaries, flattened, for microscopic examination of cultures. Sturges, W. S., 1928, **15,** 19, ab.
Capillary spaces, penetration of bacteria through: motility and size as influencing filterability through Berkefeld candles. Mudd, S., 1923, **8,** 459
— — penetration of bacteria through: transport through Berkefeld filters by electroendosmotic streaming. Mudd, S., and Mudd, E. B. H., 1924, **9,** 151
— — penetration of bacteria through: migration through sand. Warren, S., and Mudd, S., 1924, **9,** 143
Capsule, transverse, organism with. Thompson, R., 1934, **28,** 41
Capsules, bacterial, simple method of staining. Leifson, E., 1930, **20,** 203
— young cultures of *Streptococcus hemolyticus* and, Seastone, C. V., 1934, **28,** 481
Carbohydrate content as a criterion of the suitability of a broth for the culture of pneumococci. McGuire, G., Valentine, E., Whitney, E., and Falk, K. G., 1932, **23,** 223
— influence on the nitrogen metabolism of bacteria. Berman, N., and Rettger, L. F., 1918, **3,** 389
— medium, advantages of in routine examination of milk. Sherman, J. M., 1916, **1,** 481
Carbohydrates, action of five members (so-called species) of the septicemia hemorrhagica (*Pasteurella*) group of organisms on. Besemer, A. M., 1917, **2,** 177
— determination of in culture media. Schmidt, C. F., Jr., 1931, **22,** 31
— fermentation of by *Vibrio cholerae*. Nobechi, K., 1925, **10,** 197
— fermentation of, without gas formation, by a variable proteus-like organism. Sears, H. J., and Rohner, M., 1933, **25,** 50, ab.
— irradiated by ultraviolet light, inhibition of growth of *B. subtilis* by. Blank, I. H., and Arnold, W., 1935, **30,** 507
— specific, of pneumococcus, systematic study of microörganisms which decompose. Sickles, G. M., and Shaw, M., 1934, **27,** 106, ab.; **28,** 415

Carbohydrates, utilization of by *C. diphtheriae* in the production of strong toxin. Leonard, G. F., and Holm, A., 1934, **27,** 98, ab.
— various, effect on the production of diphtheria toxin with special reference to its flocculating titer and final pH. Hazen, E. L., and Heller, G., 1932, **23,** 195
Carbolic acid and trikresol in the preservation of hog cholera serum, relative value. Reichel, J., 1916, **1,** 359, ab.
Carbon bisulphid, relation to soil organisms and plant growth. Fred, E. B., 1916, **1,** 361, ab.
— compounds, strain variation of *Azotobacter* and the utilization of. Smith, N. R., 1934, **27,** 54, ab.
— dioxide, determination of by spiral absorber. Goresline, H. E., 1934, **27,** 65, ab.
— — influence of gaseous environment on growth and toxin production of *C. diphtheriae*. Plastridge, W. N., and Rettger, L. F., 1929, **18,** 1
— — influence on bacteria. Valley, G., and Rettger, L. F., 1927, **14,** 101
— — influence on production and preservation of diphtheria toxin. Plastridge, W. N., and Rettger, L. F., 1929, **17,** 52, ab.
— — preservation of complement in various gaseous environments with special reference to. Valley, G., and McAlpine, J. G., 1928, **15,** 44, ab.
— — preserving action of on diphtheria toxin, mechanism of. Plastridge, W. N., and Rettger, L. F., 1929, **18,** 101
— — requirements of bacteria. Valley, G., and Rettger, L. F., 1926, **11,** 78, ab.
— — under pressure, nature of effect on bacteria. Swearingen, J. S., and Lewis, I. M., 1933, **26,** 201
Carbonaceous materials, utilization of, by *Rhizobium*, Neal, O. R., and Walker, R. H., 1935, **30,** 173
Carbons, vegetable, acceleration of alcoholic fermentation of cane molasses by. Owen, W. L., and Denson, W. P., 1929, **17,** 28, ab.
Caries, dental, aciduric bacteria and. Anderson, T. G., 1935, **30,** 211
— — isolation and description of aciduric organisms associated with. Morishita, T., 1929, **18,** 181
— — Lactobacilli from, acid production and tolerance of as measured by the glass electrode. Rosebury, T., 1932, **24,** 321
Carotene, occurrence in bacteria. Ingraham, M. A., and Baumann, C. A., 1934, **27,** 25, ab.
— synthesis of by bacteria. Ingraham, M. A., and Baumann, C. A., 1934, **27,** 25, ab.
Carotenoid pigments of several bacterial species. Ingraham, M. A., 1935, **29,** 74, ab.
Carotenoids, relation of microörganisms to; occurrence of carotene in bacteria. Ingraham, M. A., and Baumann, C. A., 1934, **28,** 31
Catalase, participation in cellular oxidative processes. Swenson, T. L., and James, L. H., 1935, **29,** 10, ab.
— production of by an anaerobic organism. Sherman, J. M., 1926, **11,** 417
Catalyzing station, central, anaerobiosis produced by. Boëz, L., 1927, **13,** 227
Cataphoresis methods, simplified, to estimate diphtheria bacillus virulence, Falk, I. S., Jensen, L. B., and Mills, J. H., 1928, **15,** 38, ab.
Catharsis, elaterin, report on. Tonney, F. O., Caldwell, F. C., and Griffin, P. J., 1916, **1,** 699, ab.
Cations, additive and antagonistic effect upon bacterial viability. Winslow, C.-E. A., and Dolloff, A. F., 1928, **15,** 13, ab.

Cations, certain, specific potency of with special reference to their effect on bacterial viability. Winslow, C.-E. A., and Haywood, E. T., 1931, **22**, 49
— effect on bacterial growth. Hotchkiss, M., 1923, **8**, 141
— effect on bacterial viability, comparative study. Winslow, C.-E. A., and Haywood, E. T., 1930, **19**, 8, ab.
— influence on bacterial sporogenesis in a liquid medium. Fabian, F. W., and Bryan, C. S., 1933, **25**, 33; **26**, 543
— natural and acquired resistance of certain strains of *Escherichia coli* to the bacteriostatic and germicidal effects of. Borman, E. K., 1932, **23**, 315
Catsup, preservative action of salt, sugar, benzoate, and acid in. Pederson, C. S., and Breed, R. S., 1927, **13**, 59, ab.
Cattle, *Brucella melitensis* infection in. Boak, R. A., and Carpenter, C. M., 1934, **27**, 73, ab.
— diagnosis of a fatal disease of in the mountainous regions of California. Meyer, K. F., 1916, **1**, 249, ab.
— sensitization to tuberculin by non-tubercle, acid-fast bacilli of bovine origin. Hastings, E. G., Beach, B. A., and Thompson, I., 1930, **19**, 29, ab.
Caulobacteriales, a new order of stalked bacteria of fresh water. Henrici, A. T., and Johnson, D. E., 1935, **30**, 61
Cell, bacterial, metabolic activity at various phases of the population cycle. Walker, H. H., and Winslow, C.-E. A., 1932, **23**, 53, ab.; **24**, 209
— — observations on a chromosomal mechanism for. Lindegren, C. C. and Mellon, R. R., 1933, **25**, 47, ab.
— division in bacteria, two modes of. Knaysi, G., 1929, **17**, 4, ab.
— inclusions and endospore formation in *Bacillus mycoides*. Lewis, I. M., 1934, **28**, 133
— single bacterial, culture from, improved method. Paine, S. G., and Ramchandani, J. C., 1929, **17**, 377
— — bacterial, culture from, practical method. Paine, S. G., 1927, **14**, 441
— — fermenting capacity of, formula for. Rahn, O., 1930, **19**, 383
— wall and Gram reaction. Burke, V., and Barnes, M. W., 1929, **18**, 69
Cellobiose as an aid in differentiation of members of the colon-aerogenes group. Jones, H. N., and Wise, L. E., 1926, **11**, 359
Cells, bacterial, microscopic method of distinguishing dead from living. Knaysi, G., 1935, **30**, 193
— individual bacterial, growth rate of. Kelly, C. D., and Rahn, O., 1932, **23**, 147
— — method for plating out. Rous, P., and Jones, F. S., 1916, **1**, 256, ab.
— living, method of obtaining suspensions from fixed tissues. Rous, P., and Jones, F. S., 1916, **1**, 256, ab.
— throat epithelial, and invading organisms, differential staining of. Broadhurst, J., Liming, R., and Maclean, M. E., 1935, **30**, 444, ab.
— young and mature bacterial, relative thermal death rates. Stark, C. N., and Stark, P., 1929, **18**, 333
— vegetable, electrophoretic migration of. Winslow, C.-E. A., and Upton, M. F., 1926, **11**, 367
Cellular inclusion bodies in diseases due to filterable viruses. Cowdry, E. V., 1927, **13**, 20, ab.
Cellulose, aerobic bacteria concerned in the decomposition of. Bradley, L. A., and Rettger, L. F., 1927, **13**, 321

Cellulose, decomposing bacteria, silica gel plate for demonstrating occurrence and abundance of. Waksman, S. A., and Carey, C., 1926, **12**, 87
— decomposing organisms, action of so-called accessory substances in the association of *Azotobacter* and. Skinner, C. E., 1930, **19**, 149
— decomposition by aerobic bacteria. Dubos, R. J., 1928, **15**, 223
— — by anaerobic bacteria. Cowles, P. B., 1930, **19**, 15, ab.
— — in the soil, microörganisms concerned in. Waksman, S. A., and Skinner, C. E., 1926, **12**, 57
— destroyers, China-blue-aurin-cellulose medium for physiological study. Sanborn, J. R., 1927, **14**, 395
— — influence of *Azotobacter chroococcum* on physiological activities of. Sanborn, J. R., and Hamilton, W. B., 1929, **18**, 169
— fermentation, China-blue-aurin-cellulose medium for physiological investigation of. Sanborn, J. R., 1928, **15**, 33, ab.
— — physiological studies. Sanborn, J. R., 1928, **16**, 315
— fermenting anaerobes, apparently wide-spread, *Cl. cellulosolvens* (n. sp.)? Cowles, P. B., and Rettger, L. F., 1931, **21**, 167
— — bacteria, thermophilic, isolation of. Snieszko, S., 1932, **23**, 71, ab.
— in soils, aerobic bacteria concerned in the decomposition of, influence of environment on. Dubos, R. J., 1927, **13**, 52, ab.
— — decomposition of. McBeth, I. G., 1916, **1**, 557, ab.
— — rôle of bacteria and other microorganisms in decomposition of. Waksman, S. A., 1935, **30**, 441, ab.
cellulosolvens, see Clostridium
Ceramic materials (moist), effects of microbiological activity during aging of. Glick, D. P., 1935, **29**, 79, ab.
Cereals, bacteriological blights of. Jones, L. R., Johnson, A. G., and Reading, C. S., 1916, **1**, 705, ab.
— biochemistry of granulated lactic acid bacteria from. Fred, E. B., Peterson, W. H., and Stiles, H. R., 1925, **10**, 63
Cerebrospinal meningitis in horses, relation of *B. botulinus* to. Graham, R., and Brueckner, A. L., 1919, **4**, 1
cereus, see Bacillus
cerevisiae, see Saccharomyces
Cervix, early tuberculosis of the. Cullen, T. S., 1916, **1**, 376, ab.
— Vincent's bacillus in the. McConnell, G., 1916, **1**, 696, ab.
Chambers microdissection apparatus, modification for isolation of single cells. Wright, W. H., and McCoy, E. F., 1927, **13**, 15, ab.
Chance, effect of, on mortality of experimentally infected animals. Halvorson, H. O., 1935, **30**, 330, ab.
Chart, descriptive, progress report for 1918 of committee on. Conn, H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N., 1919, **4**, 107
— — report of committee for 1919. Conn., H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, H. N., 1920, **5**, 127
— — report of committee for 1919. Part II. Conn, H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N., 1920, **5**, 315
— — report of committee for 1919. Part III. Modification of Gram stain. Atkins, K. N., 1920, **5**, 321
— — recent work on. Conn, H. J., Atkins, K. N., Brown, J. H., Cohen, B., Hucker, G. J., and Tanner, F. W., 1925, **10**, 315

chauvei, see Clostridium
chauvoei, see Clostridium
Cheese, control of mold on the surface of. Rogers, L. A., 1932, **23,** 62, ab.
— Emmental, control of anaerobic spore-formers in manufacture of. Demeter, K. J., 1933, **25,** 64, ab.
— — or Swiss, abnormal gassy fermentations in, strain of *Cl. welchii* causing. Albus, W. R., 1928, **15,** 203
— — or Swiss, cause of eyes and characteristic flavor. Sherman, J. M., 1921, **6,** 379
— growth curves in study of bacteriology of. Albus, W. R., 1926, **11,** 97, ab.
— factory, outbreak of mold in. Dunham, D. H., 1929, **17,** 39, ab.
— indol in. Nelson, V. E., 1916, **1,** 361, ab.
— Swiss, *Bacterium acidi-propionici* 8 and other lactate-fermenting bacteria of. Frazier, W. C., and Wing, H. U., 1932, **23,** 60, ab.
— — effect of certain milk bacteria on. Burkey, L. A., and Frazier, W. C., 1930, **19,** 49, ab.
— — eye-forming organism of. Frazier, W. C., and Wing, H. U., 1931, **21,** 39, ab.
— — influence of bacterial growth and acid production on the draining of in the press. Burkey, L. A., and Sanders, G. P., 1932, **23,** 61, ab.
— — manufacturing processes in the Swiss cheese kettle, growth and activity of bacteria during. Frazier, W. C., Sanders, G. P., Boyer, A. J., and Long, H. F., 1934, **27,** 539
— — methods for determining the persistence of certain important bacteria in. Burkey, L. A., 1931, **21,** 40, ab.
— — processed, containing pimentos, gassy, fermentation in. Albus, W. R., 1927, **13,** 66, ab.
— — streptococci as starters for. Frazier, W. C., Burkey, L. A., Matheson, K. J., and Watson, P. D., 1930, **19,** 50, ab.
— — *Streptococcus thermophilus* in ripening milk for. Frazier, W. C., 1933, **25,** 63, ab.
Chemical composition of menstruum, effect of bacterial cells on as influenced by the presence of various electrolytes. Shaughnessy, H. J., and Winslow, C.-E. A., 1927, **13,** 8, ab.
— constituents of Brucella cells, biological activities of. Huddleson, I. F., and Hershey, A. D., 1935, **29,** 58, ab.
— differentiation of bacteria. Stearn, E. W., and Stearn, A. E., 1925, **10,** 13
— mechanism of bacterial behavior: problem of bacteriostasis. Stearn, A. E., and Stearn, E. W., 1924, **9,** 491
— — — behavior toward dyes—factors controlling the Gram reaction. Stearn, E. W., and Stearn, A. E., 1924, **9,** 463
— — — new theory of the Gram reaction. Stearn, E. W., and Stearn, A. E., 1924, **9,** 479
— study, continuous method of culturing bacteria for. Moyer, H. V., 1929, **18,** 59
Chemotherapy of experimental bacterial infections. Jacobs, W. A., 1916, **1,** 460, ab.
Cherry, Wragg, bacterial disease of. Sackett, W. G., 1917, **2,** 79
Chick embryos, properties of vaccine cultivated in the chorio-allantoic membrane of. Goodpasture, E. W., and Buddingh, G. J., 1934, **27,** 76, ab.

Chickenpox, etiology and laboratory diagnosis of. Force, J. N., 1916, **1**, 581, ab.

Chickens, saprophytic and secondary microörganisms occurring in the respiratory tracts of in health and disease. Gibbs, C. S., 1931, **21**, 97

— viruses of laryngotracheitis and coryza of. Gibbs, C. S., 1935, **30**, 411

— young, slow lactose fermenting bacteria pathogenic for. Lewis, K. H., and Hitchner, E. R., 1935, **29**, 22, ab.

Chicks, trichomonasis of. Weinzirl, J., 1917, **2**, 441

— young, infected with *Bacterium pullorum*, histo-pathology of the intestines. Gage, G. E., and Martin, J. F., 1916, **1**, 553, ab.

Children, intestinal tract of, aerobic spore-bearing bacteria in. Batchelor, M. D., 1919, **4**, 23

Chitin-destroying bacteria. Johnson, D. E., 1932, **24**, 335

Chitinovorous bacteria. A preliminary survey. Benton, A. G., 1935, **29**, 449

Chlamydobacteriales, subgroups and genera of. Buchanan, R. E., 1918, **3**, 301

Chloramine-T and calcium hypochlorite, observations on germicidal efficiency of. Charlton, D. B., and Levine, M., 1935, **30**, 163

Chlorination at the Madison sewage disposal plant, bacteriological studies before and after. Domogalla, B., 1931, **21**, 9, ab.

— of water, ammonia in. Race, J., 1916, **1**, 458, ab.

— some aspects of. Race, J., 1916, **1**, 458, ab.; 680 ab.

Chlorine compound, new selective bactericidal, azochloramid. Schmelkes, F. C., Marks, H. C., Romans, I. B., Horning, E. S., and Guiteras, A. F., 1934, **27**, 36, ab.

— efficiency of in sewage disinfection as affected by certain environmental factors. Rudolfs, W., and Ziemba, J. V., 1934, **27**, 419

— germicidal efficiency against anthrax spores. Tilley, F. W., and Chapin, R. M., 1930, **19**, 295

— preparations, disinfection of beverage glasses by. Mallmann, W. L., and Devereux, E. D., 1935, **29**, 70, ab.

Chocolate candies, cause of explosion in. Weinzirl, J., 1922, **7**, 599

— — cream, *Cl. multifermentans* in. Hill, G. A., 1925, **10**, 413

— — anaerobes causing explosion in, sugar as source of. Weinzirl, J., 1926, **11**, 100, ab.; 1927, **13**, 203

— — rôle of starch in cracking of. Philbrick, B. G., 1926, **11**, 99, ab.; **12**, 275

Cholera, Asiatic, prevention of. McLaughlin, A. J., 1916, **1**, 131, ab.; 377, ab.

— carriers, experimental. Schöbl, O., 1916, **1**, 698, ab.

— fowl, double sugar medium for routine diagnosis of. Cruickshank, G. A., 1927, **14**, 435

— hog, filterable organism isolated from the tissues of. Healy, D. J., and Gott, E. J., 1916, **1**, 357, ab.

cholerae, see Vibrio

Chorea, bacteriologic studies in. Richards, J. H., 1920, **5**, 511

— etiology of. Morse, J. L., and Floyd, C., 1916, **1**, 703, ab.

Chorioallantoic membrane of chick, cultivation of virus of equine encephalomyelitis on. Higbie, E., and Howitt, B., 1935, **29**, 399

— — — — embryos, properties of vaccine cultivated in. Goodpasture, E. W., and Buddingh, G. J., 1934, **27**, 76, ab.

Choroidal tubercle in tuberculous meningitis. Bredeck, J. F., 1916, **1**, 376, ab.

Chromogens and history. Reid, R. D., 1935, **30**, 654, ab.
Chromogenic bacillus. Rector, F. L., 1916, **1**, 86, ab.
Chromogenesis in *B. salmonicida*. Belding, D. L., and Arrowood, J. G., 1929, **17**, 55, ab.
Chromosomal mechanism for the bacterial cell. Lindegren, C. C., and Mellon, R. R., 1933, **25**, 47, ab.
chroococcum, see Azotobacter
Chymase production by bacteria, detection of. Gorini, C., 1933, **25**, 65, ab.
Cigar cutter tests. Berry, J. L., 1916, **1**, 706, ab.
Citrate, action of in synthetic media for tubercle bacilli. Reed, G. B. and Rice, C. F., 1928, **16**, 97
Citrates, fermentation of. Hastings, E. G., Mansfield, H., and Helz, G., 1926, **11**, 77, ab.
Citric acid, fermentation of in various culture media. Hastings, E. G., Mansfield, H., and Helz, G., 1926, **11**, 77, ab.
Citron, fermentation of. Fellers, C. R., and Smith, E. G., 1934, **27**, 63, ab.
Citrus canker. Wolf, F. A., 1916, **1**, 384, ab.
Cladothrix, isolated from genito-urinary tract. Scudder, S. A., and Belding, D. L., 1926, **11**, 102, ab.
Classification and evolution of bacteria. Breed, R. S., Conn, H. J., and Baker, J. C., 1918, **3**, 445
— of acid-fast bacteria. McCarter, J. R., and Hastings, E. G., 1934, **27**, 41, ab.
— of aciduric bacteria. Rahe, A. H., 1918, **3**, 407
— of Actinomycetales, subgroups and genera. Buchanan, R. E., 1918, **3**, 403
— of anaerobic bacteria. Heller, H. H., 1921, **6**, 521
— of bacteria, diastase production and. Allen, P. W., 1918, **3**, 15
— — — problem of bacterial nomenclature. Buchanan, R. E., 1916, **1**, 591
— of Bacteriaceae, subgroups and genera. Buchanan, R. E., 1918, **3**, 27
— of bacterial types, preliminary report of committee of Society of American Bacteriologists. Families and genera of bacteria. Winslow, C.-E. A., Broadhurst, J., Buchanan, R. E., Krumwiede, C., Jr., Rogers, L. A., and Smith, G. H., 1917, **2**, 505
— — — — final report of committee of the Society of American Bacteriologists. Winslow, C.-E. A., Broadhurst, J., Buchanan, R. E., Krumwiede, C., Jr., Rogers, L. A., and Smith, G. H., 1920, **5**, 191
— of Chlamydobacteriales, subgroups and genera. Buchanan, R. W., 1918, **3**, 301
— of Coccaceae, subgroups and genera. Buchanan, R. E., 1917, **2**, 603
— of colon-cloacae group. Levine, M., 1918, **3**, 253
— of colon-typhoid group. Winslow, C.-E. A., apd Kligler, I. J., 1916, **1**, 81, ab.
— of colon-typhoid group. Thomas, J. B., and Sandman, E. A., 1916, **1**, 565, ab.
— of colon-typhoid group with special reference to fermentative reactions. Winslow, C.-E. A., Kligler, I. J., and Rothberg, W., 1919, **4**, 429
— of Eubacteriales and Actinomycetales. Pribram, E., 1929, **17**, 8, ab.
— of Eubacteriales, families. Buchanan, R. E., 1917, **2**, 347
— of fusiform bacilli, serological. Varney, P. L., 1927, **13**, 275
— of genera *Micrococcus, Sarcina, Neisseria*, and *Streptococcus*. Pribram, E., 1933, **25**, 41, ab.

Classification of lactose fermenting bacteria. Levine, M., 1916, **1**, 619
— of microörganisms: introduction; plants, animals and microörganisms. Pribram, E., 1929, **18**, 361
— of microörganisms, pathogenicity and. Pribram, E. A., 1931, **22**, 427
— of Myxobacteriales and Spirochaetales, subgroups and genera. Buchanan, R. E., 1918, **3**, 541
— of propionic acid bacteria. Werkman, C. H., and Kendall, S. E., 1930, **19**, 18, ab.
— of propionic acid bacteria. Werkman, C. H., and Brown, R. W., 1933, **26**, 393
— of Schizomycetes, based upon their biological relationship to other plants and animals. Pribram, E., 1929, **18**, 366
— of Schizomycetes, primary subdivisions. Buchanan, R. E., 1917, **2**, 155
— of the Spirillaceae and Nitrobacteriaceae, subdivisions and genera. Buchanan, R. E., 1918, **3**, 175
— of spore-bearing bacteria. Ford, W. W., 1916, **1**, 527
— of staphylococci, white and orange. Winslow, C.-E. A., Rothberg, W., and Parsons, E. I., 1920, **5**, 145
— of streptococci of human feces. Welch, H., 1929, **17**, 413
— of Thiobacteriales, subgroups and genera. Buchanan, R. E., 1918, **3**, 461
Classifications, various bacterial, diagrammatic summary of. Buchanan, R. E., Breed, R. S., and Rettger, L. F., 1928, **16**, 387
Climate, effects of on important properties of soils. Lipman, C. B., and Waynick, D. D., 1916, **1**, 562, ab.
Cloacal infection as a means of immunization against infectious laryngotracheitis of fowls. Beaudette, F. R., 1934, **27**, 80, ab.
Clostridia, application of the H-O technique of agglutination to. McCoy, E., and McClung, L. S., 1935, **29**, 59, ab.
Clostridiaceae, certain genera of. Heller, H. H., 1922, **7**, 1
Clostridium acetobutylicum, amylase of. Johnston, W. W., and Wynne, A. M., 1935, **30**, 491
— — carbon and nitrogen metabolism of. Wilson, W. P., Peterson, W. H., and Fred, E. B., 1930, **19**, 231
— — fermentation of acetoacetic acid and pyruvic acid by. Peterson, W. H., and Johnson, M. J., 1933, **25**, 69, ab.
— — relationship between nitrogen and carbon metabolism of. Wilson, P. W., Peterson, W. H., and Fred, E. B., 1930, **19**, 231
— *bifermentans*, motility of. Sturges, W. S., and Drake, E. T., 1928, **15**, 20, ab.
— — strain variations in. Sturges, W. S., and Drake, E. T., 1929, **17**, 15, ab.; 387
— *botulinum*, growth in "waterless-processed" string beans. James, L. H., 1929, **17**, 32, ab.
— — influence of filtrates of on growth of. Stark, C. N., Sherman, J. M., and Stark, P. W., 1928, **15**, 18, ab.
— — insects as carriers of. Gunderson, M. F., 1935, **30**, 333, ab.
— — in nature. Burke, G. S., 1919, **4**, 541
— — in soil samples detection by the constricted tube method. Hall, I. C., and Peterson, E. C., 1924, **9**, 201
— — in vitro, toxin production of effect of certain bacteria upon. Hall, I. C., and Peterson, E., 1923, **8**, 319

Clostridium botulinum, metabolism of in various media. Wagner, E., Meyer, K. F., and Dozier, C. C., 1925, **10**, 321
— — notes on. Burke, G. S., 1919, **4**, 555
— — relation to forage poisoning or cerebrospinal meningitis in horses. Graham, R., and Brueckner, A. L., 1919, **4**, 1
— — spores, effect of freezing on. James, L. H., 1932, **23**, 47, ab.
— — spores, resistance to moist heat. Tanner, F. W., and McCrea, F. D., 1923, **8**, 269
— — — — to salt. Wyant, Z. N., and Normington, R., 1920, **5**, 553
— *butyricum* colonies in acid soil, method for determining number of. Batchelor, H. W., and Curie, I. H., 1929, **17**, 25, ab.
— *carnis*, (Klein), differentiation from *B. fallax* (Weinberg and Séguin). Duffett, N. D., 1935, **29**, 573
— — (Klein) identification with *B. VI*, von Hibler. Hall, I. C., and Duffett, N. D., 1935, **29**, 269
— — Klein, relation to *B. VI*, von Hibler. Duffett, N. D., and Hall, I. C., 1935, **29**, 4, ab.
— *cellulosolvens* (n. sp.?) an apparently wide-spread cellulose-fermenting anaerobe. Cowles, P. B., and Rettger, L. F., 1931, **21**, 167
— *chauvei*, certain characteristics of. Scott, J. P., 1925, **10**, 265
— — use of ferric salts to increase virulence of cultures of. Scott, J. P., 1926, **11**, 108, ab.
— *chauvoei*, further cultural characteristics differentiating from other anaerobes. Schlingman, A. S., and Haines, A. W., 1925, **10**, 449
— *edematis*, certain characteristics of. Scott, J. P., 1925, **10**, 265
— *fallax* (Weinberg and Séguin), differentiation of, from *B. carnis* (Klein). Duffett, N. D., 1935, **29**, 573
— *flabelliferum*. Sturges, W. S., and Reddish, G. F., 1926, **11**, 37
— — and *Cl. sporogenes*, comparison of the nitrogen metabolism of several strains. Sturges, W. S., and Parsons, L. B., 1926, **11**, 189
— — further isolations. Sturges, W. S., and Parsons, L. B., 1926, **11**, 189
— *histolyticum*, nature of volatile acid produced by. Sturges, W. S., Parsons, L. B., and Drake, E. T., 1929, **17**, 14, ab.
— — nature of the volatile acid by from proteins. Sturges, W. S., Parsons, L. B., and Drake, E. T., 1929, **18**, 157
— — proteolysis and the selective destruction of amino acids by. Mead, W. M., Jr., and King, C. G., 1929, **17**, 151
— *lentoputrescens*, nov. spec., establishment of *"Cl. putrificum"* as. Hartsell, S. E., and Rettger, L. F., 1934, **27**, 39, ab.; 497
— *multifermentans* in chocolate cream candies. Hill, G. A., 1925, **10**, 413
— *oedematoides*, serologic agglutination of. Hall, I. C., and Scott, A. L., 1931, **22**, 375
— — and *Bacillus sordellii*, identity of. Hall, I. C., Jungherr, E., and Rymer, M. R., 1929, **17**, 15, ab.
— *paraputrificus* (Bienstock), probable identity with an obligately anaerobic bacillus from the feces of newborn infants and other human sources. Hall, I. C., and Snyder, M. L., 1934, **28**, 181
— *putrefaciens*, complete description. Sturges, W. S., and Drake, E. T., 1927, **14**, 175
— — protein metabolism of. Parsons, L. B., and Sturges, W. S., 1927, **13**, 3, ab.
— — proteolysis by, compared with that of other anaerobes. Parsons, L. B., and Sturges, W. S., 1927, **14**, 181

Clostridium putrefaciens, relation between volatile acid and ammonia production during metabolism of. Parsons, L. B., and Sturges, W. S., 1927, **14**, 193
— — volatile acids produced by, in cooked meat medium. Parsons, L. B., and Sturges, W. S., 1927, **14**, 201
— *putrificum*, comparison of strains obtained from collections in this country and abroad. Reddish, G. F., 1924, **9**, 321
— — morphological, cultural, and biochemical study. Reddish, G. F., and Rettger, L. F., 1923, **8**, 375
— — taxonomic study and establishment as a definite entity—*Cl. lentoputrescens*, nov. spec. Hartsell, S. E., and Rettger, L. F., 1934, **27**, 39, ab.; 497
— *putrificus* (Bienstock), a distinct species. Reddish, G. F., and Rettger, L. F., 1922, **7**, 505
— — and other obligate anaerobes, isolation and cultivation of. Sturges, W. S., Jr., and Rettger, L. F., 1919, **4**, 171
— — Bienstock, identity of. Cunningham, A., 1932, **24**, 61
— *septicum*, growth phases of. Hoyt, A., 1935, **30**, 243
— — variability. Hoyt, A., 1935, **30**, 243
— *sordellii* and *Clostridium oematoides*, identity of. Hall, I. C., Jungherr, E., and Rymer, M. R., 1929, **17**, 15, ab.
— — serologic agglutination of. Hall, I. C., and Scott, A. L., 1931, **22**, 375
— *sporogenes* and *Cl. flabelliferum*, comparison of the nitrogen metabolism of several strains. Sturges, W. S., and Parsons, L. B., 1926, **11**, 189
— — growth in veal infusion broth under reduced pressures. Dack, G. M., Starin, W. A., and Werner, M., 1927, **13**, 1, ab.
— — influence of filtrates of upon growth of. Stark, C. N., Sherman, J. M., and Stark, P. W., 1928, **15**, 18, ab.
— — proteolysis and selective destruction of amino acids by. Mead, M. W., Jr., and King, C. G., 1929, **17**, 151
— *tertius* (Henry), comparative and taxonomic study of thirty-eight strains. Hall, I. C., and VanVranken, M., 1931, **21**, 2, ab.
— *tetani*, bacteriophage for. Cowles, P. B., 1934, **27**, 163
— — detection in soil samples by the constricted tube method. Hall, I. C., and Peterson, E. C., 1924, **9**, 201
— — variation in. Orr, J. H., and Reed, G. B., 1934, **27**, 48, ab.
— *tetanus*, a strain of isolated from a human case of the disease. Cummings, G. D., 1934, **27**, 99, ab.
— *welchii*, biology of. Esty, J. R., 1920, **5**, 375
— — dissociation of. Roe, A. F., 1934, **27**, 46, ab.
— — groups, the presence of the *B. coli* and in the intestinal tract of fish (*Stenomous chrysops*). Browne, W. W., 1917, **2**, 417
— — infections in rabbits, pernicious anaemia-like blood changes accompanying. Reed, G. B., and Orr, J. H., 1926, **11**, 109, ab.
— — influence of H-ion concentration on sporulation of. Torrey, J. C., Kahn, M. C., and Salinger, M. H., 1930, **20**, 85
— — in the stools of pellagrins. Holmes, W. H., 1916, **1**, 260, ab.
— — isolation and estimation of. Chapman, G. H., 1928, **16**, 49
— — strain of causing normal gassy fermentation in Emmenthal or Swiss cheese. Albus, W. R., 1928, **15**, 203
— — study of a strain isolated in France, with some notes on gastric ulcers. Stewart, M. W., and West, R., 1916, **1**, 588, ab.

Clostridium welchii, toxin, influence of on erythrocytes in vivo and in vitro. Reed, G. B., and Orr, J. H., 1926, **11**, 109, ab.
— — variation in. Orr, J. H., and Reed, G. B., 1933, **25**, 96, ab.
— III, Rodella's, probable identity with an obligately anaerobic bacillus from the feces of newborn infants and other human sources. Hall, I. C., and Snyder, M. L., 1934, **28**, 181
— VI, von Hibler, relation to *B. carnis* and other microaeorphilic bacilli. Duffett, N. D., and Hall, I. C., 1935, **29**, 4, ab.
— — von Hibler, identification with *B. carnis*, Klein. Hall, I. C., and Duffett, N. D., 1935, **29**, 269
Cloth, cotton, removal of natural impurities of by the action of bacteria. Levene, B. S., 1916, **1**, 463, ab.
Clover, red, isolation of a bacteriolytic principle from the root nodules of. Hitchner, E. R., 1929, **17**, 19, ab.; 1930, **19**, 191
— strain variation in the root nodule bacteria of. Baldwin, I. L., and Fred, E. B., 1929, **17**, 17, ab.
— Wood's non-reciprocal interchangeability on nodule bacteria of garden bean and. Sears, O. H., and Clark, F. M., 1929, **17**, 20, ab.
— — root-nodule organism of. Whiting, A. L., 1926, **11**, 93, ab.
coagulans, see Bacillus
Coagulase tests as measures of the pathogenicity of staphylococci. Chapman, G. H., Berens, C., Peters, A., and Curcio, L., 1934, **28**, 343
Coal, anthracite, bacteria in. Farrell, M. A., and Turner, H. G., 1932, **23**, 155
Coccaceae, subgroups and genera of. Buchanan, R. E., 1917, **2**, 603
Cocci, Gram-positive, from cases of genito-urinary infections, thirty strains. Stadnichenko, A. M. S., 1929, **17**, 303
— — sodium chloride in culture media for separation of from Gram-negative bacilli. Hill, J. H., and White, E. C., 1929, **17**, 47, ab.; **18**, 43
— Gram structure of. Churchman, J. W., 1929, **18**, 413
— resisting pasteurization temperatures. Hucker, G. J., 1928, **15**, 28, ab.
Coccidia in subepithelial infections of the intestines of birds. Hadley, P. B., 1917, **2**, 73
Coccobacillus, see Bacterium
Coccobacillus foetidus-ozaenae and *Bacillus bronchisepticus*, comparative study. Ferry, N. S., and Noble, A., 1918, **3**, 499
Coccus, forms of *Corynebacterium diphtheriae*. Grubb, T. C., and Koser, S. A., 1934, **27**, 45, ab.
— yellow pigment-producing, study of microbic variation in. Colien, F. E., 1935, **30**, 301
Cold, common, etiology of. Noble, W. C., Jr., Fisher, E. A., and Brainard, D. H., 1927, **13**, 33, ab.
— — infection of ferrets with virus of. Noble, W. C., Jr., and Brainard, D. H., 1935, **29**, 407
Colds, common, etiology of. Foster, G. B., 1916, **1**, 586
Cold-blooded animals, tuberculosis of. Aronson, J. D., and Henderson, H. J., 1934, **27**, 101, ab.
coli, see Bacterium
coli communis, see Bacterium
coli communior, see Bacterium
coli mutabile, see Bacterium
Coli-aerogenes differentiation in water analysis. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **21**, 407
— differentiation in water analysis: biochemical differential tests and their interpretation. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **22**, 125

Coli-aerogenes differentiation, comparative productivity tests of presumptive test media with pure cultures of. Farrell, M. A., 1935, **30,** 445, ab.
— — differential tests and their relation to habitat. Koser, S. A., 1926, **11,** 77
— — disappearance of in natural purification processes as determined by direct plate counts. Ruehhoft, C. C., Coulter, E. W., Adams, C. L., and Sotier, A. L., 1933, **25,** 143
— — fermentation of alpha-methyl-d-glucoside by. Koser, S. A., and Saunders, F., 1932, **24,** 267
— — correlation of the Voges-Proskauer and methyl red reactions in. Levine, M., 1916, **1,** 566, ab.
Coli-like organisms of the soil. Johnson, B. R., 1916, **1,** 96, ab.
— — from the soil. Johnson, B. R., and Levine, M., 1917, **2,** 379
Coli tests, presumptive, hastening gas appearance in. Broadhurst, J., 1929, **17,** 12, ab.
Colitis, ulcerative, hemolytic *B. coli* and. Nicholls, E. E., 1935, **29,** 35, ab.
Colloid chemical aspects of the Kahn reaction. Kahn, R. L., 1928, **15,** 49, ab.
Colloidal substances, filteration of through bacteria-retaining filters. Gochenour, W. S., and Bunyea, H., 1920, **5,** 363
Colloids in soil, nitrogen metabolism of bacteria as affected by. Conn, H. J., 1932, **23,** 77, ab.
Colon-aerogenes forms, atypical, isolated from natural waters. Perry, M. C., and Monfort, W. F., 1921, **6,** 55
— — correlation of citrate utilization by, with other differential characteristics and with habitat. Koser, S. A., 1924, **9,** 59
— — correlation study with special reference to the organisms occurring in the soil. Chen, C. C., and Rettger, L. F., 1920, **5,** 253
— — differentiation of members of, cellobiose in. Jones, H. N., and Wise, L. E., 1926, **11,** 359
— — direct enumeration of members of, synthetic medium for. Ayers, S. H., and Rupp, P., 1918, **3,** 433
— — fermentation of the polyhydric alcohols by. Poe, C. F., and Field, J. T., 1931, **21,** 11, ab.
— — destruction of acetyl-methylcarbinol by members of. Paine, F. S., 1927, **13,** 269
— — from silage. Hunter, O. W., 1917, **2,** 635
— — in the intestine, influence of *L. acidophilus* on. Kopeloff, N., and Beerman, P., 1926, **11,** 101, ab.
— — intermediate groups, acid and gas formation by members of, in the presence of certain sugar alcohols and their anhydrides. Dozois, K. P., Hachtel, F., Carr, C. J., and Krantz, J. C., Jr., 1935, **30,** 189
— — — dissimilation of glycerol by. Reynolds, H., and Werkman, C. H., 1935, **30,** 652, ab.
— — occurrence and significance of so-called atypical reactions in. Parr, L. W., 1934, **27,** 42, ab.
— — — of different types in water. Rogers, L. A., 1918, **3,** 313
— — of bacteria, comparative studies of presumptive test media for. Shunk, I. V., 1935, **29,** 163
— — sugar-tolerant member of. James, L. H., 1930, **19,** 145
— — utilization of salts of organic acids by. Koser, S. A., 1926, **11,** 409
— — — — — — of organic acids by, further observations. Koser, S. A., 1926, **11,** 409
— organisms in well waters, interpretation of direct differential counts of. Tonney, F. O., and Noble, R. E., 1932, **23,** 473

Colon-aerogenes bacilli, living, lesions produced in rabbits by repeated intravenous injections of. Bailey, C. H., 1916, **1,** 130, ab.
— — — production of amyloid disease and chronic nephritis in rabbits by injections of. Bailey, C. H., 1916, **1,** 587, ab.
— — spoilage of olives by. Tracy, R. L., 1934, **28,** 249
— bacillus infection of the bladder. Morris, R. T., 1916, **1,** 381, ab.
— — pyelitis, chronic, treatment by pelvic lavage. Kretschmer, H. L., and Gaarde, F. W., 1916, **1,** 695, ab.
— — type of occurring in surface waters. Rogers, L. A., 1916, **1,** 82, ab.
— bacteria and streptococci and their significance in milk. Rogers, L. A., Clark, W. M., and Evans, A. C., 1916, **1,** 567, ab.
— — behavior of some *mutabile* strains of in synthetic media in regard to bacterial variation. Lewis, I. M., 1934, **28,** 619
— — in human feces, characteristics of. Rogers, L. A., Clark, W. M., and Lubs, H. A., 1916, **1,** 82, ab.; 1918, **3,** 231
— cloacae group, classification of. Levine, M., 1918, **3,** 253
— group, detection of in milk analysis by lactose peptone bile media with the addition of various triphenylmethane dyes. Poe, C. F., Hale, W. H., and Poe, F. E., 1928, **15,** 9, ab.
— — detection of in water analysis by lactose peptone bile media with the addition of various triphenylmethane dyes. Poe, C. F., Field, J. T., Tobey, S. and Witt, N. F., 1928, **15,** 9, ab.
— organisms, detection in water and milk by formate ricinoleate broth. Stark, C. N., and England, C. W., 1935, **29,** 26, ab.
— — media used for detection of, in water and milk. Stark, C. N., and Curtis, L. R., 1935, **29,** 27, ab.
— — metabolic activity of, at different phases of the culture cycle. Mooney, G., and Winslow, C.-E. A., 1935, **30,** 427
— typhoid group, agglutination in. Ishii, O., 1922, **7,** 39
— — — agglutination in, spontaneous. Ishii, O., 1922, **7,** 71
— — — classification of. Winslow, C.-E. A., and Kligler, I. J., 1916, **1,** 81, ab.
— — — — — Thomas, J. B., and Sandman, E. A., 1916, **1,** 565, ab.
— — — — — with special reference to fermentative reactions. Winslow, C.-E. A., Kligler, I. J., and Rothberg, W., 1919, **4,** 429
— — — isolation and identification of members. Bronfenbrenner, J., Schlesinger, M. J., and Soletsky, D., 1920, **5,** 79
— — — microbic heredity in. Mellon, R. R., 1925, **10,** 481
— — — on carbohydrate medium, fate of. Ishii, O., 1920, **5,** 437
— — — viability in carbonated water and other beverages. Koser, S. A., and Skinner, W. W., 1922, **7,** 111
— — — zygo-spore formation in. Mellon, R. R., 1925, **10,** 481
Colonies of bacteria, binocular microscope for study of. Reed, G. B., 1922, **7,** 123
— mobile, in liquid medium. Bibb, L. B., 1925, **10,** 561
— — produced by *B. rotans*. Roberts, J. L., 1935, **29,** 229
— secondary, with special reference to *Bacillus mycoides*, Lewis, I. M., 1933, **25,** 359
Colony, bacterial, rate of growth of. Rogers, L. A., and Greenbank, G. R., 1929, **17,** 2, ab.
communior, coli, see *Bacterium*

Complement, deviation applied to the diagnosis of moniliasis of the digestive tract. Martinez, I. G., 1916, **1**, 571, ab.
— fixation, antilytic, effect of heat on normal rabbit and dog sera in relation to. Kolmer, J. A., and Trist, M. E., 1916, **1**, 371, ab.
— — and skin reactive antigens of the tubercle bacillus. Abadjieff, B., 1926, **12**, 355
— — by *Bact. typhosum*. Robinson, E. S., 1924, **9**, 409
— — gonococcus: new lipoid antigen. Warden, C. C., and Schmidt, L. E., 1916, **1**, 571, ab.
— — grouping of meningococcus strains by. Olmstead, M. P., 1916, **1**, 364, ab.
— — in acne volgaris. Strickler, A., Kolmer, J. A., and Schamberg, J. F., 1916, **1**, 462, ab.
— — in intestinal parasitism of dogs. Kolmer, J. A., Trist, M. E., and Heist, G. D., 1916, **1**, 369, ab.
— — in persons treated orally with bile and triple typhoid bacterin. Hoffstadt, R. E., and Thompson, R. L., 1929, **17**, 41, ab.
— — test in tuberculosis. Miller, H. A., 1916, **1**, 688, ab.
— — in tuberculosis. Miller, H. R., and Zinsser, H., 1916, **1**, 688, ab.
— — — — pulmonary. Meyer, A., 1916, **1**, 690, ab.
— — — — production of antigen for. Miller, H. R., and Zinsser, H., 1916, **1**, 687, ab.
— — in vaccinia and variola. Kolmer, J. A., 1916, **1**, 568, ab.
— — in varicella. Kolmer, J. A., 1916, **1**, 568, ab.
— — non-specific by normal dog serum. Kolmer, J. A., Trist, M. W., and Heist, G. D., 1916, **1**, 370, ab.
— — — by normal rabbit serum. Kolmer, J. A., and Trist, M. E., 1916, **1**, 369, ab.
— — — effect of heat on normal rabbit and dog sera in relation to. Kolmer, J. A., and Trist, M. E., 1916, **1**, 371, ab.
— — — in normal dog and rabbit sera, influence of splenectomy and anesthetics on. Kolmer, J. A., and Pearce, R. M., 1916, **1**, 370 ab.
— — — with normal rabbit and dog sera, relation of serum lipoids and proteins to. Kolmer, J. A., 1916, **1**, 371, ab.
— — quantitative determination of. Hirschfelder, J. O., 1916, **1**, 572, ab.
— — reactions formed in persons treated with typhoid bacterin in capsule. Hoffstadt, R. E., and Martin, C. E., 1929, **17**, 42, ab.
— — with sputum cultures, control of. Williams, W. W., and Burdick, W., 1916, **1**, 690, ab.
— preparation and preservation of. Thompson, L., 1916, **1**, 252, ab.
— preservation in various gaseous environments, with special reference to carbon dioxide. Valley, G., and McAlpine, J. G., 1928, **15**, 44, ab.
Concentration, cell, effect on the mortality of bacteria exposed to alkalinity and heat. Watkins, J. H., and Winslow, C.-E. A., 1932, **23**, 51, ab.
Conductivity method applied to studies of bacterial metabolism. Parsons, L. B., and Sturges, W. S., 1926, **11**, 177
— — — — — — — — — parallelism between ammonia and conductivity in nutrient gelatin cultures of putrefactive anaerobes. Parsons, L. B., and Sturges, W. S., 1926, **11**, 82, ab.; **12**, 267
Conjunction of disexual forms in Ascobacillus. Broadhurst, J., Moriyama, Y., and Pease, D., 1931, **21**, 305

Conn, Prof. H. W. Esten, W. M., 1917, **2**, 501
Connellan-King diplococcus infection of the tonsil. King, J. J., 1916, **1**, 697, ab.
Copper salts, bactericidal and fungicidal action of. DeWitt, L. M., and Sherman, H., 1916, **1**, 567, ab.
— soap formation, detection of microbial lipase by. Berry, J. A., 1933, **25**, 433
Corn, mash, acetone butyl alcohol fermentation, occurrence of a red pigment producing organism in. Fred, E. B., Peterson, W. H., and Carroll, W. R., 1925, **10**, 97
— meal, biochemical aspects of the acetone butyl alcohol fermentation of. Peterson, W. H., Fred, E. B., and Stiles, H. R., 1929, **17**, 27, ab.
— sweet, bacteria prevalent in canning. James, L. H., 1927, **13**, 409
— thermophilic contamination in canning of. Cameron, E. J., Williams, C. C., and Thompson, R. J., 1927, **13**, 64, ab.
Corynebacteria associated with diseases of domestic animals. Merchant, I. A., 1935, **30**, 95
Corynebacterium: see also Bacterium
— See also Diphtheria bacillus
— — and some related organisms, action on glucosamine. Noble, W. C., Jr., and Knacke, F. E. D., 1928, **15**, 55
— — amino-acid requirements for growth of. Mueller, J. H., and Kapnick, I., 1935, **30**, 525
— — antigens of and their relation to toxin. Warden, C. C., Connell, J. T., and Holly, L. E., 1921, **6**, 103
— — coccoid form of, susceptible to bacteriophage. Stone, F. M., and Hobby, G. L., 1934, **27**, 403
— — coccus forms of. Grubb, T. C., and Koser, S. A., 1934, **27**, 45, ab.
— — cultural requirements of. Mueller, J. H., 1935, **29**, 513, 515
— — electrophoretic velocities of virulent and non-virulent strains of. Buggs, C. W., and Green, R. G., 1935, **30**, 447
— — influence of gaseous environment on growth and toxin production of. Plastridge, W. N., and Rettger, L. F., 1929, **18**, 1
— — morphology of a strain of. Heinemann, P. G., 1917, **2**, 361
— — production of strong toxin by utilization of carbohydrates and salts of organic acids in. Leonard, G. F., and Holm, A., 1934, **27**, 98, ab.
— — protobacterial forms of. Smith, G. H., and Jordan, E. F., 1930, **20**, 25
— — relationship to bacteriophage. Smith, G. H., and Jordan, E. F., 1931, **21**, 75
— — rôle of the amino acids in the metabolism of. Davis, L., and Ferry, N. S., 1919, **4**, 217
— — variability of. Jones, L. R., 1933, **25**, 97, ab.
— *ulcerans:* epidemiological significance. Gilbert, R., 1929, **17**, 52, ab.
Cotton cloth, removal of natural impurities of by bacterial action. Levene, B. S., 1916, **1**, 463, ab.
Counters, centimeter. Broadhurst, J., 1927, **13**, 5, ab.
Counting methods, bacteriological, different, comparison of. Domogalla, B., 1932, **23**, 43, ab.
Counts, bacterial, observed variations in on the same plate. Schacht, F. L., and Robertson, A. H., 1931, **21**, 22, ab.
— — of milk, weighted mean method of averaging. Bigger, J. W., and Griffiths, L. L., 1933, **25**, 253
Cow, dissemination of human pathogenic streptococci through udder of. Davis, D. J., 1935, **29**, 42, ab.

Cow pea and soy bean nodule bacteria, cross inoculation studies with. Sears, O. H., and Carroll, W. R., 1927, **13,** 55, ab.
— — organisms, nitrate production by. Leonard, L. T., 1929, **17,** 19, ab.
Cows, *Bacillus necrophorus* obtained from. Orcutt, M. L., 1930, **20,** 343
CR indicator, bactericidal action of. Bronfenbrenner, J., Schlesinger, M. J., and Sloetsky, D., 1920, **5,** 79
Cream, bitter, lipolytic activities of several bacteria causing. McGrath, J. T., and Anderson, J. A., 1934, **27,** 68, ab.
— deterioration of by a lipolytic bacterium. Anderson, J. A., and Hardenbergh, J. G., 1932, **23,** 59, ab.
— number of spores of anaerobic bacteria in. Hussong, R. V., and Hammer, B. W., 1930, **19,** 89
Creamery wastes, monilia-like organisms from a trickling filter receiving. Gorseline, H. E., and Levine, M., 1930, **19,** 51, ab.
— — purification of. Levine, M., Burke, G. W., and Watkins, J. H., 1926, **11,** 94, ab.
Creatinine production by *B. coli* and *B. typhi*. Sears, H. J., 1917, **2,** 187
Cropping, soil subjected to different systems of for twenty-five years, bacteriological studies. Gainey, P. L., and Gibbs, W. W., 1916, **1,** 678, ab.
Crown gall of plants, evidence that it is cancer. Smith, E. F., 1916, **1,** 577, ab.
— — of plants: relation to human cancer. Smith, E. F., 1916, **1,** 578, ab.
— — studies; showing changes in plant structure due to a changed stimulus. Smith, E. F., 1916, **1,** 577, ab.
Cryptococcus, genus of fungi, isolated from the skin of an epidemic perlèche. Pribram, E., 1930, **19,** 31, ab.
Crystal formation in bacterial cultures. Scudder, S. A., 1926, **11,** 90, ab.
— violet agar, as differential medium for staphylococci. Chapman, G. H., and Berens, C., 1935, **29,** 437
— — compound formation of with nucleic acid and gelatin, and its significance in dye bacteriostasis. Stearn, A. E., 1930, **19,** 133
— — in bacteriological cultures for water analysis. Stark, C. N., and England, C. W., 1933, **25,** 439
— — in presumptive tests for water pollution. Stark, C. N., and England, C. W., 1932, **23,** 36, ab.
Cucurbits, transmission and control of bacterial wilt of. Rand, F. V., and Enlows, E. M. A., 1916, **1,** 577, ab.
Cultural requirements of bacteria. Mueller, J. H., I, 1922, **7,** 309; II, 325
— — — — the diphtheria bacillus. Mueller, J. H., Klise, K. S., Porter, E. F., and Graybiel, A., 1933, **25,** 509
Culture collection, American type. Rogers, L. A., 1932, **23,** 193; 1934, **27,** 486
— dish, simple anaerobic. Spray, R. S., 1931, **21,** 23, ab.
— media, agar agar, note on the preparation of. Williams, C. L., and Letton, H. P., 1916, **1,** 547
— — bacterial variations induced by changes in the composition of. Dawson, A. I., 1919, **4,** 133
— — colorimetric method of adjusting to any optimum hydrogen ion concentration. Hurwitz, S. H., Meyer, K. F., and Ostenberg, Z., 1916, **1,** 129, ab.
— — determination of carbohydrates in. Schmidt, C. F., Jr., 1931, **22,** 31

Culture media effect of sterilization upon sugars in. Mudge, C. S., 1917, **2**, 403
— — extracts of pure dry yeast for. Ayers, S. H., and Rupp, P., 1920, **5**, 89
— — fermentation of citric acid in. Hastings, E. G., Mansfield, H., and Helz, G., 1926, **11**, 77, ab.
— — for bacteriological examination of disinfectants, importance of uniformity in. Wright, J. H., 1917, **2**, 315
— — for isolation of *Bacterium granulosis*. Bengtson, I. A., 1934, **27**, 34, ab.
— — from whole blood, preparation of. Kelser, R. A., 1916, **1**, 615
— — hydrogen ion concentration of, titrimetric adjustment of. Hall, I. C., 1923, **8**, 387
— — insolation of. Leonard, L. T., and Marsh, F. W., 1928, **15**, 195
— — made from commercial dried yeast as a routine substitute for meat infusion peptone media. Neill, J. M., Sugg, J. Y., Richardson, L. V., and Fleming, W. L., 1929, **17**, 329
— — solid with a wide range of hydrogen or hydroxyl ion concentration. Wolf, F. A., and Shunk, I. V., 1921, **6**, 325
— — thermophilic organisms found in. Prickett, P. S., and Breed, R. S., 1928, **16**, 247
— — titration and adjustment of. Anthony, B. van H., and Ekroth, C. V., 1916, **1**, 209
— — use of clarified honey in. Hall, H. H., and Lothrop, R. E., 1934, **27**, 349
— — use of washed agar in. Ayers, S. H., Mudge, C. S., and Rupp, P., 1920, **5**, 589
— — value of vegetable extracts in. Thompson, L., 1929, **17**, 4, ab.; 379
— — vegetable extract, note on reaction changes during sterilization. McClung, L. S., 1932, **24**, 457
— — yeast as a substitute for meat extract in. Johanson, E., and Broadhurst, J., 1926, **11**, 87, ab.
— medium, amniotic fluid as a. Giltner, W., and Ludlum, L. C., 1916, **1**, 91, ab.
— — dissociation of *Bacterium dysenteriae*, Sonne type, as influenced by variations in. Koser, S. A., and Styron, N. C., 1930, **19**, 13, ab.
— — for isolation of *Bacillus typhosus* from stools. Holt-Harris, J. E., and Teague, O., 1916, **1**, 693, ab.
— — for maintaining stock cultures of the meningococcus. Roos, C. G. A., 1916, **1**, 88, ab.; 67
— — for stock cultures of bacteria. Worth, M. C., 1919, **4**, 603
— — new, for tubercle bacillus. Williams, W. W., and Burdick, W., 1916, **1**, 411
— — relation of protease production to. Wilson, E. D., 1930, **20**, 41
— — simplified, for isolation of *Neisseria gonorrhoeae*. Gibbard, J., 1929, **17**, 47, ab.
— method, climbing, dissociation of acido-proteolytic bacteria by. Gorini, C., 1929, **17**, 1, ab.
— physiological youth as evidenced by cell metabolism. Walker, H. H., Winslow, C.-E. A., Huntington, E., and Mooney, M. G., 1934, **27**, 303
— study, pure. Conn, H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N., 1918, **3**, 115; 1919, **4**, 107
— thermobiotic, dissociation of acido-proteolytic bacteria by. Gorini, C., 1930, **19**, 14, ab.
Cultures, crystal formation in. Scudder, S. A., 1926, **11**, 90, ab.

Cultures, determination of sugar in. Stiles, H. R., and Peterson, W. H., 1926, **11**, 79, ab.
— direct method for the determination of the H-ion concentration of. Weiss, E., 1931, **21**, 22, ab.
— function of lag in. Sherman, J. M., and Albus, W. R., 1924, **9**, 303
— hydrogen sulfide determination in. Fellers, C. R., Shostrom, O. E., and Clark, E. D., 1924, **9**, 235
— in liquid media, new vessel for efficient aeration of. Magoon, C. A., and Brunstetter, B. C., 1930, **19**, 5, ab.; 415
— indol and skatol determination in. Fellers, C. R., and Clough, R. W., 1925, **10**, 105
— intermittent growth of. Rogers, L. A., and Greenbank, G. R., 1930, **19**, 181
— microscopic examination of, flattened capillaries for. Sturges, W. S., 1928, **15**, 19, ab.
— mixed, of bacteria, quantitative differential method for counting. Anderson, E. H., and Stuart, C. A., 1935, **30**, 207
— physiological changes in, apparatus for intermittent observations of. Tamiya, H., 1926, **12**, 125
— pure, from single cells of non-spore-forming bacteria. Wright, W. H., and Nakajima, H., 1929, **17**, 10, ab.
— simultaneous, of any desired age, apparatus for obtaining. Perkins, R. G., 1918, **3**, 23
— solution, changes in viscosity induced by various species of *Rhizobium* in. Anderson, D. A., and Walker, R. H., 1933, **25**, 54, ab.
— spiral bodies in. Florence, L., 1921, **6**, 371
Current, alternating, high frequency, effect on bacteria. Fabian, F. W., and Graham, H. T., 1933, **25**, 34, ab.
— — lethal effect of on yeast cells. Tracy, R. L., Jr., 1932, **24**, 423
Curves, growth, application to a study of the bacteriology of cheese. Albus, W. R., 1926, **11**, 97, ab.
Cyanocuprol, treatment of leprosy with. Takano, R., 1916, **1**, 700, ab.
— treatment of tuberculosis with. Otani, M., 1916, **1**, 700, ab.
Cyclostage, critical, of tubercle bacillus. Mellon, R. R., 1935, **30**, 654, ab.
Cysteine, favorable rôle in the cultivation of anaerobic organisms. Valley, G., 1929, **17**, 12, ab.

D

Dahlia and streptococci, simultaneous injections in the guinea-pig. Hoffman, W. H., Maclure, W. B., and Sauer, L. W., 1916, **1**, 583, ab.
Dairy, large certified milk, use of blood agar plate in. Parker, M. E., 1927, **13**, 61, ab.
— products, anaerobic bacteria of, number of spores of in milk and cream. Hussong, R. V., and Hammer, B. W., 1930, **19**, 89
— — — — — — relationship to certain abnormal fermentations. Hussong, R. V., and Hammer, B. W., 1930, **19**, 95
— — Escherichia-aerobacter organisms responsible for defects in. Sarles, W. B., and Hammer, B. W., 1933, **25**, 62, ab.; 461
Dalea alopecuroides, root-nodule organism of. Whiting, A. L., 1926, **11**, 93, ab.
Danysz bacillus, inheritance of resistance to in the rat. Irwin, M. R., 1928, **15**, 45, ab.
Dates, souring of by yeasts. Fellers, C. R., and Clague, J. A., 1932, **23**, 63, ab.
Death, different definitions of, experimental comparison. Rahn, O., and Barnes, M. N., 1932, **23**, 46, ab.

Death, interpretation of changes in electrical resistance accompanying. Zoond, A., 1927, **13**, 9, ab.; **14**, 279
— points, thermal, of bacteria in relation to pasteurization. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9**, 279
— — thermal, of *Brucella abortus*. Carpenter, C. M., and Boak, R., 1928, **15**, 41, ab.
— — thermal of *Saccharomyces ellipsoideus*. Aref, H., and Cruess, W. V., 1934, **27**, 443
— rates, bacterial, in polluted waters. Butterfield, C. T., 1928, **16**, 257
Decomposition, subsequent bacterial, in sterile tissues, effect of autolysis in. Gibbons, N. E., and Reed, G. B., 1930, **19**, 73
Dehydration, bacteriological aspects. Prescott, S. C., 1920, **5**, 109
Delinquents, juvenile, syphilis among. Harris, T. H., 1916, **1**, 258, ab.
Dementia praecox, tuberculous bacillemia and. Kopeloff, L. M., Kopeloff, N., Hinsie, L. E., and Etchells, J. L., 1935, **30**, 49
Denitrification and nitrogen fixation in incubated soils, recurrent periodism of. Batchelor, H. W., and Curie, I. H., 1930, **19**, 42, ab.
Denitrifying organism, marine. Lloyd, B., 1931, **21**, 89
Dental aciduric organisms, comparison with *Lactobacillus acidophilus*. Rosebury, T., Linton, R. W., and Buchbinder, L., 1929, **18**, 395
— caries, an anaerobe isolated from. Jay, P., 1927, **14**, 385
— path, importance as an avenue to infection. Hartzell, T. B., and Henrici, A. T., 1916, **1**, 363, ab.
Depilating enzymes of *Aspergillus flavus-oryzae* group. Stuart, L. S., 1935, **29**, 88, ab.
Dermacentroxenus rickettsi Wolbach, functional and morphological changes in the life history of. Spencer, R. R., 1927, **13**, 42, ab.
Dermatitis herpetiformis. Engman, M. F., and Davis, R., 1916, **1**, 266, ab.
Dermatology, microscope in. Levin, O. L., 1916, **1**, 696, ab.
Dermatoses, focal infection in relation to. Ravitch, M. L., 1916, **1**, 695, ab.
Desiccation, effect on diphtheria bacilli. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.
— — — staphylococci. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.
— — — streptococci. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.
— of bacteria and viability of dry bacterial cells. Stark, C. N., and Herrington, B. L., 1931, **21**, 13, ab.
Deuterium, effect on the growth of yeast. Richards, O. W., 1934, **28**, 289
D'Herelle's phenomenon, relation of digestive enzymes and ferments to. McKinley, E. B., 1923, **8**, 543
Diabetes mellitus, etiology of. Bergey, D. H., 1927, **13**, 29, ab.
— pathogeny of, relation to fecal disinfection. Palacios, G. D., 1916, **1**, 377, ab.
Diarrhea, dysenteric, flagellate protozoa as an etiologic factor of. Rhamy, B. W., and Metts, F. A., 1916, **1**, 581, ab.
— infectious, in calves, *Bacillus enteritidis* as a cause of. Meyer, K. F., Traum, J., and Roadhouse, C. L., 1916, **1**, 357, ab.
— white, of fowls, apparent recovery of a hen infected with. Horton, G. D., 1916, **1**, 625
— — — — control of. Allen, P. W., Cole, W. E., and Cameron, G. M., 1927, **13**, 68, ab.
— — — — diagnosis of, routine, double sugar medium for. Cruickshank, G. A., 1927, **14**, 435

Diastase production, classification of bacteria as to. Allen, P. W., 1918, **3,** 15

— activity of bacteria. Koch, G. P., 1916, **1,** 556, ab.

Dick's plate method for isolating anaerobes, modifications in. Northrup, Z., 1919, **4,** 299

Dictyostelium and other slime molds in soil, distribution of. Thom, C., and Raper, K., 1932, **23,** 80, ab.

Diet, calcium deficient, changes in intestinal flora of rats on. Hoffstadt, R. E., and Johnson, S. J., 1926, **11,** 100, ab.

Differential tests, biochemical, and their interpretation in coli-aerogenes differentiation in water analysis. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **22,** 125

— plating methods for *B. bifidus* (Tissier) and *B. acidophilus* (Moro). Torrey, J. C., 1917, **2,** 435

Differentiation of living from dead bacteria by staining reactions. Gay, F. P., and Clark, A. R., 1934, **27,** 175

Diffusers, air, tested at Milwaukee (Wis.) sewage plant. Hatton, T. C., 1916, **1,** 125, ab.

Diffusion products of bacterial cells as influenced by the presence of various electrolytes. Shaughnessy, H. J., and Winslow, C.-E. A., 1927, **14,** 69

Digestive tract, complement deviation reaction in diagnosis of moniliasis of the. Martinez, I. G., 1916, **1,** 571, ab.

Dilution data obtained by using a single dilution, accuracy of. Halvorson, H. O., and Ziegler, N. R., 1933, **26,** 331

— — — — — — several dilutions, accuracy of. Halvorson, H. O., and Ziegler, N. R., 1933, **26,** 559

— water, effect of on bacterial suspensions. Weeter, H. M., 1916, **1,** 92, ab.

Diphtheria antitoxin, horses used for the production of, effect of alum on. Leonard, G. F., and Varley, J. R., 1932, **23,** 109, ab.

— — in blood sera, determination of small amounts of with modified Römer's method. Zingher, A., 1916, **1,** 688, ab.

— — relation of bacteriological peptone to in production of toxin used for making. Davis, L., 1920, **5,** 477

Diphtheria bacilli, allergic reaction to. Kolmer, J. A., 1916, **1,** 365, ab.

— — combined with toxin-antitoxin, late results in active immunization with. Park, W. H., and Zingher, A., 1916, **1,** 127, ab.

— — effects of light and drying upon. Poor, D. W., and Fitzpatrick, C. P., 1916, **1,** 703, ab.

— — electrophoretic measurement of, simplified technique for. Falk, I. S., Jensen, L. B., and Mills, J. H., 1928, **15,** 421

— — from nose and throat, removal by kaolin. Rappaport, B., 1916, **1,** 382, ab.

— — relations between virulence, toxigenicity, and electrophoretic mobilities. Jensen, L. B., and Falk, I. S., 1928, **15,** 367

— — virulence of, guinea pig tests for. Kolmer, J. A., Woody, S. S., and Moshage, E. L., 1916, **1,** 382, ab.

— — virulent and non-virulent, microelectrophoresis and the differentiation of. Jensen, L. B., and Falk, I. S., 1928, **15,** 367

Diphtheria bacillus, *see also Corynebacterium*

— — cultural requirements of. Mueller, J. H., Klise, K. S., Porter, E. F., and Graybiel, A., 1933, **25,** 509

Diphtheria bacillus, in culture. Bunker, J. W. M., 1919, **4,** 379
— — single, morphological and physiological variations in descendants of. Crowell, M. J., 1926, **11,** 65
— — virulence, simplified cataphoresis methods to estimate. Falk, I. S., Jensen, L. B., and Mills, J. H., 1928, **15,** 38, ab.
Diphtheria carriers. Geiger, J. C., Kelly, F. L., and Bathgate, V. M., 1916, **1,** 258, ab.
— — in Cleveland. Perkins, R. G., Miller, M. J., and Rush, H. O., 1916, **1,** 707, ab.
— — removal of tonsils and adenoids in. Friedberg, S. A., 1916, **1,** 257, ab.
— — treatment by tonsillectomy. Ruh, H. O., Miller, M. J., and Perkins, R. G., 1916, **1,** 381, ab.
— — treatment with iodized phenol. Ott, W. O., and Roy, K. A., 1916, **1,** 263, ab.
— control of. Lewis, D. M., 1916, **1,** 581, ab.
— diagnosis by means of a blood serum containing potassium tellurate. Shimer, W., 1916, **1,** 111, ab.
— epidemics, control of. Stovall, W. D., 1916, **1,** 257, ab.
— immunity, natural, active and passive, determination by the Schick test. Park, W. H., and Zingher, A., 1916, **1,** 574, ab.
— immunization with toxin detoxified with sodium ricinoleate. Larson, W. P., 1926, **11,** 114, ab.
— in first year of life. Rolleston, J. D., 1916, **1,** 697, ab.
— in Manila. Goff, A. P., 1916, **1,** 377, ab.
— organisms of the *gravis* and *mitis* strains, antigenic relation. Etris, S., 1934, **27,** 96, ab.
— potency as observed in horses immunized against, comparison of methods for determination of. Leonard, G. F., 1931, **21,** 46, ab.
— routine health department examination for, modified Loeffler's blood serum medium for. Medalia, L. S., Bailey, K. R., and Atwood, C., 1931, **21,** 119
— toxin, action of short electric waves on. Szymanowski, W. T., and Hicks, R. A., 1931, **21,** 59, ab.
— — and antitoxin, relation of bacteriological peptone to the production of. Davis, L., 1920, **5,** 477
— toxin-antitoxin, late results in active immunization with and with toxin-antitoxin combined with diphtheria bacilli. Park, W. H., and Zingher, A., 1916, **1,** 127, ab.
— toxin, effect of various carbohydrates on production of, with special reference to flocculating titer and final pH. Hazen, E. L., and Heller, G., 1932, **23,** 195
— — influence of on growth of certain bacteria. Sherman, J. M., Stark, C. N., and Stark, P. W., 1927, **13,** 45, ab.
— — in Schick test. Zingher, A., 1916, **1,** 367, ab.
— — nature of. Locke, A., and Main, E. R., 1928, **15,** 35, ab.
— — preserving action of carbon dioxide on, mechanism of. Plastridge, W. N., and Rettger, L. F., 1929, **18,** 101
— — production and preservation, influence of carbon dioxide on. Plastridge, W. N., and Rettger, L. F., 1929, **17,** 52, ab.
— — purification and concentration of. Eaton, M. D., and Bayne-Jones, S., 1935, **29,** 56, ab.
— — rôle of the amino acids in the metabolism of *Bacterium diphtheriae*. Davis, L. and Ferry, N. S., 1919, **4,** 217
— — toxic principle in, stability of. Bunney, W. E., 1932, **23,** 104, ab.

Diphtheria toxoid, preparation by treatment of the toxin with one per cent formalin and precipitation with acetone. Wadsworth, A., Quigley, J. J., and Sickles, G. R., 1933, **25**, 82, ab.
— — production and preservation. Powell, H. M., 1933, **25**, 84, ab.
diphtheriae, see *Corynebacterium*
— see also *Diphtheria bacillus*
Diphtheroid bacilli, two unusual strains. Mellon, R. R., 1916, **1**, 257, ab.
— bacillus of Preisz-Nocard. Hall, I. C., and Stone, R. V., 1916, **1**, 553, ab.
— group, characteristics of a peculiar pleomorphic member. Mellon, R. R., 1917, **2**, 81
— — classification. Mellon, R. R., 1917, **2**, 269
— — immunological relation to the streptococci. Mellon, R. R., 1917, **2**, 447
Diphtheroids in blood stream, biological and clinical significance. Koch, R., and Mellon, R. R., 1930, **19**, 25, ab.
— in routine blood cultures. Thompson, L., 1931, **21**, 45, ab.
Diplococcus, Connellan-King, infection of the tonsil. King, J. J., 1916, **1**, 697, ab.
— *pneumoniae*, potato extract broth for typing. Larson, N., and Thompson, L., 1930, **19**, 33, ab.
Disexual forms in *Ascobacillus*, conjunction of. Broadhurst, J., Moriyama, Y., and Pease, D., 1931, **21**, 305
Disimmunization and accompanying phenomena. Kahn, R. L., 1934, **27**, 92, ab.
Disimmunized state, serum reactions in. Kahn, R. L., and McDermott, E. R., 1934, **27**, 94, ab.
Disinfectant, sunlight as a. Meader, F. M., 1926, **11**, 82, ab.
Disinfectants, bacteriological examination of, importance of uniform culture media in. Wright, J. H., 1917, **2**, 315
— chemical, and bacteriophage, toxicity and germicidal activity as compared by an *in vivo* test. Walker, J. E., 1930, **19**, 22, ab.
— coal tar, variation of the phenol coefficients of with the use of different test organisms. Philbrick, B. G., 1929, **17**, 45, ab.
— hygienic laboratory and department of agriculture tests, comparison of. Brewer, C. M., and Reddish, G. F., 1929, **17**, 44, ab.
— relation of surface tension to action of. Frobisher, M., Jr., 1927, **13**, 163
— standardization of. Walker, J. T. A., 1916, **1**, 364, ab.
— value of some tellurium compounds as. Munn, L. E., and Hopkins, B. S., 1925, **10**, 79
Disinfection, chlorine, preparation for use with beverage glasses. Mallman, W. L., and Devereaux, E. D., 1935, **29**, 70, ab.
— — survivor curves exhibited by bacterial spores in. Charlton, D. B., and Levine, M., 1934, **27**, 37, ab.
— effects of temperature and hydrogen ion concentration on the viability of *Bact. coli* and *Bact. typhosum* in water. Cohen, B., 1922, **7**, 183
— physical chemistry of. Norton, J. F., and Hsu, P. H., 1916, **1**, 459, ab.
— theory of. Falk, I. S., and Winslow, C.-E. A., 1926, **11**, 1
Dissociants of R pneumococci and their relation to *Streptococcus viridans*. Paul, J. R., 1934, **28**, 69
— of *Staphylococcus aureus*, genetic significance of. Hoffstadt, R. E., and Youmans, G. P., 1934, **27**, 551
Dissociation, anaerobic, example of. Spray, R. S., 1933, **25**, 51, ab.
— and the epidemic problem in influenza. Falk, I. S., 1932, **23**, 25, ab.

Dissociation and filtration studies with *L. acidophilus*. Raney, M. E., and Kopeloff, N., 1934, **27**, 45, ab.
— and life cycle of *Bacillus mycoides*. Lewis, I. M., 1932, **24**, 381
— and mutation myth. Hadley, P., 1927, **13**, 41, ab.
— and sensitiveness to normal serum in dysentery bacilli of type III. Thjøtta, T., and Waaler, E., 1932, **24**, 301
— cultural, in *Bacillus Calmette-Guerin* (B.C.G.). Petroff, S. A., Branch, A., and Steenken, W., Jr., 1929, **17**, 57, ab.
— homologous immune serum in. Hadley, P., 1927, **13**, 40, ab.
— in an encapsulated staphylococcus. Gilbert, I., 1931, **21**, 157
— in streptococci. Dutton, L. O., 1928, **15**, 38, ab.; **16**, 1
— in the spore-forming aerobic group. Soule, M. H., 1932, **23**, 30, ab.
— *in vivo* as illustrated by a case of subacute septicopyemia. Mellon, R. R., 1927, **13**, 99
— in yeasts. Fabian, F. W., and McCullough, N. B., 1934, **27**, 43, ab.; 583
— microbic, in *B. subtilis*. Soule, M. H., 1927, **13**, 41, ab.
— morphological and cultural studies of *Bacillus megatherium* with special reference to. Knaysi, G., 1933, **26**, 623
— of acid fast bacteria, single cell. Mycobacteria of avian tuberculosis and "rat leprosy." Kahn, M. C., and Schwarzkopf, H., 1933, **25**, 157
— of acid-fast organism, oxidation-reduction potential of medium and. McCarter, J., and Hastings, E. G., 1935, **29**, 15, ab.
— of acidoproteolytic bacteria by the climbing culture method. Gorini, C., 1929, **17**, 1, ab.
— of an acid-fast organism. McCarter, J., and Hastings, E. G., 1933, **25**, 51, ab.
— of acidoproteolytic bacteria, by thermobiotic culture. Gorini, C., 1930, **19**, 14, ab.
— of *Bacterium dysenteriae*, Sonne, as influenced by variations in culture medium. Koser, S. A., and Styron, N. C., 1930, **19**, 13, ab.
———— Sonne, some factors promoting. Dienst, R. B., 1933, **26**, 489
— of *Brucella* group. Mallmann, W. L., and Gallo, F., 1932, **23**, 33, ab.
— of certain paratyphoid bacilli, rôle of variants in the precipitation of calcium sulphite. Caldwell, M. E., 1934, **27**, 121
— of diphtheria bacillus. Yu, H., 1930, **20**, 107
— of *Cl. welchii*. Roe, A. F., 1934, **27**, 46, ab.
— of encapsulated bacteria. O'Neal, H. E., 1933, **26**, 521
— of hemolytic streptococci, effect on specificity. Tunnicliff, R., 1935, **29**, 37, ab.
— of *Myco. leprae*. Reed, G. B., 1931, **21**, 12, ab.; 1932, **24**, 357
— of Pneumococcus smooth virulent variants from daughter colonies. Eaton, M. D., 1935, **30**, 119
— of *Shigella paradysenteriae*. Mackenzie, G. M., Fitzgerald, H., and Irons, V., 1935, **29**, 583
— of *Staphylococcus aureus* and its relation to infection and immunity. Hoffstadt, R. E., and Youmans, G. P., 1932, **23**, 34, ab.
— of tubercle bacilli, particularly B.C.G. Reed, G. B., 1932, **23**, 32, ab.
— of tubercle bacillus. Petroff, S. A., 1928, **15**, 40, ab.
— of yeasts. Wickerham, L. J., and Fabian, F. W., 1935, **29**, 11, ab.
— relation of bacterial variants of Kuhn to the chief phases of. Hadley, P., 1933, **25**, 572
— studies with lactobacilli. Upton, M. F., and Kopeloff, N., 1932, **23**, 455

Distemper in foxes, etiology of. Green, R. G., and Halvorson, H. O., 1926, **11,** 100, ab.
— ozena and. Ferry, N. S., and Noble, A., 1918, **3,** 499
Distomiasis, pulmonary, mode of infection. Nakagawa, K., 1916, **1,** 465, ab.
Dividing microörganisms, dimensions of. Lange, L. B., 1927, **14,** 275
Dog serum, normal, complement fixation by, non-specific. Kolmer, J. A., Trist, M. E., and Heist, G. D., 1916, **1,** 370, ab.
— — — complement fixation by, non-specific, influence of splenectomy and anesthetics on. Kolmer, J. A., and Pearce, R. M., 1916, **1,** 370, ab.
— — — complement fixation by, non-specific, relation of serum lipoids and proteins to. Kolmer, J. A., 1916, **1,** 371, ab.
— — — effect of heat on in relation to antilytic complement fixation. Kolmer, J. A., and Trist, M. E., 1916, **1,** 371, ab.
— — — effect of heat on in relation to non-specific complement fixation. Kolmer, J. A., and Trist, M. E., 1916, **1,** 371, ab.
Dogs, complement fixation in intestinal parasitism in. Kolmer, J. A., Trist, M. E., and Heist, G. D., 1916, **1,** 369, ab.
Dormancy of bacterial spores. Morrison, E. W., and Rettger, L. F., 1930, **20,** 299
Double plate method, another use for. Frost, W. D., and Bachmann, F. M., 1916, **1,** 92, ab.; 693, ab.
Drying, effect on bacteria. See Desiccation.
Duodenal tube in obtaining uncontaminated samples of intestinal contents from various levels. Freeman, R. G., Jr., and Miller, E. G., Jr., 1924, **9,** 301
Dust, spore-bearing bacteria in. Laubach, C. A., 1916, **1,** 493
— street, New York, recovery of *Streptococcus viridans* from. Thro, W. C., 1916, **1,** 360, ab.
Dusts, household, bacteriology of. Horwood, M. P., 1931, **21,** 14, ab.
— — number and types of bacteria surviving in after storage in sealed containers for two years. Horwood, N. P., Gould, B. S., and Shwachman, H., 1934, **27,** 66, ab.
Dye sensitivity, correlation of variation in with gram character in certain gram-positive organisms. Stearn, E. W., 1927, **14,** 349
Dyes, bacteriostatic action of, in differentiation of. *Escherichia coli* and *Aerobacter aerogenes*. Halbert, V. A., 1935, **30,** 653, ab.
— behavior in bacteriological media, mechanical. Stearn, E. W., and Stearn, A. E., 1923, **8,** 567
— — of bacteria toward, rationalization from the viewpoint of physical chemistry, with special reference to staining. Stearn, A. E., 1933, **25,** 21, ab.
— certain tri-phenyl methane, effect of on *Staphylococcus aureus* and *Bacterium coli communior*. Reed, M. V., and Genung, E. F., 1934, **27,** 29, ab.
— use in media for identification of root-nodule bacteria of legumes. Batchelor, H. W., and Curie, I. H., 1927, **13,** 53, ab.
dysenteriae, see Bacterium
Dysentery, bacillary, due to Hiss-Russell bacillus. Delaney, M. A., 1916, **1,** 588, ab.
— — epidemic at Fort Shafter, H. T., from the laboratory aspect. Foucar, F. H., 1916, **1,** 588, ab.
— bacilli of type III, dissociation and sensitiveness to normal serum. Thjøtta, T., and Waaler, E., 1932, **24,** 301

Dysentery, epidemic of with three cases of the Hiss-Russell of "Y" bacillus infection. Van Poole, G. M., 1916, **1,** 588, ab.
— in Norway, bacteriology of. Thjøtta, T., 1919, **4,** 355
— (Shiga) antitoxin, method of titrating. Murray, E. G. D., 1933, **25,** 85, ab.
— Sonne. Nelson, R. L., 1930, **20,** 183

E

Ear cases, fatal. Stickney, O. D., 1916, **1,** 376, ab.
— middle, tuberculosis of. Graham, H. B., 1916, **1,** 695, ab.
Eberthella, see also Bacterium
edematis, see Clostridium
Egg white, hydrogen ion concentration of, and growth of organisms. Stark, C. N., and Sharp, P. F., 1927, **13,** 59, ab.
— — relation of hydrogen ion concentration of to its germicidal action. Sharp, P. F., and Whitaker, R., 1927, **14,** 17
Eggs, infected with *Bacterium pullorum*, toxicity of. Rettger, L. F., Hull, T. G., and Sturges, W. S., 1916, **1,** 455, ab.; 120, ab.
— mustiness in, some characteristics of bacteria causing. Levine, M., and Anderson, D. Q., 1930, **19,** 55, ab.
— shell, in cold storage, pin-spot molding on. James, L. H., and Swenson, T. L., 1930, **19,** 55, ab.
Eijkman medium, modified. Perry, C. A., and Hajna, A. A., 1933, **26,** 419
— test as an aid in the detection of fecal organisms in water. Leiter, L. W., 1929, **17,** 11, ab.
— — determination of *Escherichia coli* by, in sewage. Hajna, A. A., and Perry, C. A., 1935, **30,** 479
— — failure of *Bacterium coli* from human feces to grow at 46° in. Skinner, C. E., and Brown, J. W., 1934, **27,** 191
— — in detection of fecal pollution of water. Brown, J. W., and Skinner, C. E., 1930, **20,** 139
— — modified, for detection of pollution in drinking water, comparison with standard methods. Williams, W. L., Weaver, R. H., and Scherago, M., 1933, **25,** 39, ab.
Electric current, alternating, effect of heat produced by, on tubercle bacilli in milk. Carpenter, C. M., 1929, **17,** ??, ab.
— light, continuous, effect of in experimental arthritis. Simmonds, W. E., and Moore, J. L., 1916, **1,** 130, ab.
— waves, short, action on diphtheria toxin and other biological products. Szymanowski, W. T., and Hicks, R. A., 1931, **21,** 59, ab.
Electrical charge of bacteria, Gram reaction and. Burke, V., and Gibson, F. O., 1933, **26,** 211
— — of bacteria, relation to stability. Abramson, H. A., 1934, **27,** 89, ab.
— — of the bacteriophage. Clifton, C. E., and Madison, R. R., 1931, **22,** 255
— — relation between agglutinating ability of *Salmonella pullorum* and. Tittsler, R. P., and Lisse, M. W., 1928, **15,** 105
— half-cell, bacterial culture as. Cohen, B., 1931, **21,** 18, ab.
— resistance, interpretation of changes in, accompanying the death of cells. Zoond, A., 1927, **13,** 9, ab.; **14,** 279
Electrode, pipette, for the determination of pH in biological fluids. Goresline, H. E., 1933, **25,** 435
Electroendosmotic streaming, transport of bacteria through Berkefeld filters by. Mudd, S., and Mudd, E. B. H., 1924, **9,** 151

Electrolytes, some, effect on the buffering capacity of *B. coli*. Shaughnessy, H. J., and Falk, I. S., 1924, **9**, 559
— various, diffusion products of bacterial cells as influenced by the presence of. Shaughnessy, H. J., and Winslow, C.-E. A., 1927, **14**, 69
Electrophoresis of diphtheria bacilli. Development of a simplified technique for electrophoretic measurement of the virulence of diphtheria bacilli. Falk, I. S., Jensen, L. B., and Mills, J. H., 1928, **15**, 421
— — — — differentiation of virulent and non-virulent strains by. Jensen, L. B., Falk, I. S., Tonney, F. O., and White, J. L., 1928, **15**, 413
— — — — relations between the virulence, toxigenicity, and electrophoretic mobilities. Jensen, L. B., and Falk, I. S., 1928, **15**, 367
— of pneumococci, influence of antiserum and animal passage upon. Jacobson, M. A., and Falk, I. S., 1927, **13**, 191
— relation between certain characteristics of the root nodule bacteria and. Zucker, F., 1929, **17**, 18, ab.
— studies on *Lactobacillus acidophilus* and *Lactobacillus bulgaricus*. Weaver, R. H., 1931, **21**, 51, ab.; 1932, **24**, 73
Electrophoretic migration velocities of various microörganisms, influence of heat and storage on. Dozois, K. P., and Hachtel, F., 1935, **30**, 473
— — — — *Escherichia coli* suspensions, effect of "low voltage" X-rays on. Dozois, K. P., Tittsler, R. P., Lisse, M. W., and Davey, W. P., 1932, **24**, 123
— mobilities of the Brucella groups, variations in. Smith, D. E., and Joffe, E. W., 1934, **28**, 127
— phenomena of bacteria. Electrophoretic velocities of virulent and non-virulent *C. diphtheriae*. Buggs, C. W., and Green, R. G., 1935, **30**, 447
— — — — Electrophoretic velocity of bacteria in relation to growth, senescence, and death. Buggs, C. W., and Green, R. G., 1935, **30**, 453
— potential and other characteristics of variants of pneumococci, relations between. Falk, I. S., and Jacobson, M. A., 1926, **11**, 83, ab.
— — as an aid in identifying strains of the *B. coli* group. Chapman, G. H., 1929, **18**, 339
— — of *Rhizobium meliloti*. Tittsler, R. P., Lisse, M. W., and Ferguson, R. L., 1932, **23**, 481
— — the virulence and agglutinability of pneumococci. Falk, I. S., and Jacobson, M. A., 1926, **11**, 85
ellipsoideus, see Saccharomyces
Emetin hydrochloride in vivo, bactericidal and protozoacidal effects. Kolmer, J. A., and Smith, A. J., 1916, **1**, 698, ab.
Emmental cheese milk, bacteria responsible for ripeness in. Ereksón, A. B., and Dorner, W., 1935, **29**, 70, ab.
Encapsulated bacilli found in metritis in mares, relation to encapsulated bacilli from human sources. Edwards, P. R., 1928, **15**, 245
— — relationships of with special reference to *Bact. aerogenes*. Edwards, P. R., 1929, **17**, 339
— bacteria, dissociation of. O'Neal, H. E., 1933, **26**, 521
Encephalitis, epidemic, in foxes, symptoms of. Green, R. G., 1928, **15**, 48, ab.
— — — — Green, R. G., Ziegler, N. R., Halvorson, H. O., Green, B. B., and Dewey, E. T., 1928, **15**, 47, ab.
— — streptococcus of. Evans, A. C., and Freeman, W., 1926, **11**, 110, ab.

Encephalitis, epizootic, of foxes, experimental transmission. Green, R. G., Dewey, E. T., Shillinger, J. E., and Ziegler, N. R., 1929, **17,** 54, ab.
— etiology in St. Louis, 1933, and differentiation by protection tests. Webster, L. T., and Fite, G. L., 1934, **27,** 74, ab.
— experimental, and poliomyelitis. Rosenow, E. C., 1935, **30,** 329, ab.
— streptococci and viruses in. Rosenow, E. C., 1935, **29,** 40, ab.
— viruses, rabbit, attempt to cultivate bacteria from. Tang, F.-F., and Castaneda, M. R., 1928, **16,** 431
Encephalomyelitis, equine, cultivation of virus of, on chorioallantoic membrane of chick. Higbie, E., and Howitt, B., 1935, **29,** 399
— — immunological properties of. Howitt, B. F., 1935, **29,** 61, ab.
Endamebiasis, tonsillar, and thyroid disturbances. Evans, J. S., Middleton, W. S., and Smith, A. J., 1916, **1,** 468, ab.
Endo agar, color diffusion in. Genung, E. F., and Thompson, L. E., 1927, **14,** 139
— medium as trapping agent and indicator for aldehyde. Margolena, L. A., and Hansen, P. A., 1934, **27,** 33, ab.
— — for isolation of *B. dysenteriae*. Kligler, I. J., and Defandorf, J., 1918, **3,** 437
— — nature of reaction of *B. coli* on. Kahn, R. L., 1918, **3,** 547
— — standardization of. Conn, H. J., and Darrow, M. A., 1934, **27,** 33, ab.
— — the fuchsin-aldehyde reaction on. DeBord, G. G., 1917, **2,** 309
— — modified, and brilliant green in the isolation of *Bacillus typhosus* from feces. Robinson, H. C., and Rettger, L. F., 1916, **1,** 707, ab.
Endospore formation in *Bacillus mycoides*. Lewis, I. M., 1934, **28,** 133
Endothia parasitica, method for determining the relative toxicity of sodium, potassium, lithium, and other ions toward data on sodium chloride. Meacham, M. R., Hopfield, J. H., and Acree, S. F., 1920, **5,** 309
— — relative effect of phosphate-acetate and phosphate-phthalate buffer mixtures upon the growth of, on malt extract and corn meal media. Meacham, M. R., Hopfield, J. H., and Acree, S. F., 1920, **5,** 305
Endotoxin, correlation of agglutinative types and. Gurley, C. R., Castelda, M., and Goldberg, R., 1934, **27,** 94, ab.
Ensilage. *See* Silage.
Entameba buccalis, cultivation of. Wherry, W. B., and Oliver, W. W., 1916, **1,** 362, ab.
Enteric fever, diagnosis by agglutination tests. Davison, W. C., 1916, **1,** 583, ab.
enteritidis, see Bacterium
Enteritis, acute, in infants and young children, bacteriological study. Cooper, M. L., 1933, **25,** 90, ab.
— infectious, in very young lambs, the apparent cause. Heller, H. H., 1933, **25,** 91, ab.
Enterococci from the digestive tract of calves. Orcutt, M. L., 1926, **11,** 129
Enumeration of bacteria by precision photometer. Mestre, H., 1935, **30,** 335
— — — mixed cultures and. Anderson, E. H., and Stuart, C. A., 1935, **30,** 207
— — — various methods for, compared. Ziegler, N. R., and Halvorson, H. O., 1935, **29,** 609
— — *Escherichia coli*, comparison of methods for. Skinner, C. E., 1935, **30,** 331, ab.
Environment, imposed culture medium, correlation with animal and plant bacterial behavior. Quirk, A. J., 1934, **27,** 47, ab.

Environment factors influencing the activity of soil fungi. Coleman, D. A., 1916, **1**, 677, ab.

— — lethal, within the natural range of growth. Sherman, J. M., and Cameron, G. M., 1934, **27**, 341

Enzyme- and acid-digestion products, protein-free, growth of bacteria in. Robinson, H. C., and Rettger, L. F., 1918, **3**, 209

Enzymes, bacterial proteolytic: their activity at different pH values and the effect of sodium chloride. Spitzer, G., and Parfitt, E. H., 1930, **19**, 12, ab.

— digestive, relation to d'Herelle's phenomenon. McKinley, E. B., 1923, **8**, 543

— lipolytic and depilating, of *Aspergillus flavus-oryzae* group. Stuart, L. S., 1935, **29**, 88, ab.

— — of bacteria. Spitzer, G., and Parfitt, E. H., 1935, **29**, 69, ab.

— of bacteria and bacterial metabolism. Virtanen, A. I., 1934, **28**, 447

— — seven specific organisms, quantitative action of upon the proteins of milk and gelatin. Parfitt, E. H., and Spitzer, G., 1924, **9**, 123

— pancreatic, effect on the tubercle bacillus. Berg, W. N., 1932, **24**, 341

— proteinase and amino-polypeptidase, of *Aspergillus parasiticus*. Johnson, M. J., and Peterson, W. H., 1935, **29**, 90, ab.

Enzymic content of bacterial spores. Ruehle, G. L. A., 1923, **8**, 487

Eosin methylene blue agar, for rapid direct count of *E. coli*. Gehm, H. W., and Heukelekian, H., 1935, **29**, 28, ab.

Epidemic problem, dissociation in. Falk, I. S., 1932, **23**, 25, ab.

epidemicus, see Streptococcus

Epidemiology of tuberculosis. Smith, F. C., 1916, **1**, 264, ab.

Epilepsy, *L. acidophilus* in. Kopeloff, N., Lonergan, M. P., and Beerman, P., 1926, **11**, 101, ab.

— syphilis in. Shanahan, W. T., Munson, J. F., and Shaw, A. L., 1916, **1**, 585, ab.

Epithelial cell inclusions in trachoma and their relationship to the disease. Bengtson, I. A., 1929, **17**, 54, ab.

Epizootic, canary bird, etiology of. Beaudette, F. R., and Edwards, P. R., 1926, **12**, 51

equirulis, see Bacterium

Erepsin, a brief note on the production of by bacteria. Berman, N., and Rettger, L. F., 1916, **1**, 537

Ergosterol content and effect of ergosterol (activated and unactivated) on growth of *Mycobacterium tuberculosis*. Prickett, P. S., Massengale, O. N., and Cox, W. M., Jr., 1930, **19**, 8, ab.

— — of certain species of *Mycobacterium* and the effect of ergosterol (activated and unactivated) on their growth. Prickett, P. S., and Massengale, O. N., 1931, **21**, 9, ab.

— sensitization of pneumococcus by. Klein, S. J., 1933, **26**, 215

Erysipelas, hemolytic streptococci from, variation in. Spicer, S., Gonshorek, M. F., and Spicer, E. L., 1933, **26**, 505

— migrans and multiple abscesses in a six months' old infant successfully treated with vaccines. Fischer, L., 1916, **1**, 569, ab.

— swine, bacillus of, causing a distinctive and severe form of erysipeloid among fish handlers. Harkins, M. J., 1927, **13**, 32, ab.

erysipelatis, see Streptococcus

Erysipeloid, distinct form among fish handlers, caused by the bacillus of swine erysipelas. Harkins, M. J., 1927, **13**, 32, ab.

Erythrocytes in vivo and in vitro, influence of *B. welchii* toxin on.

Reed, G. B., and Orr, J. H., 1926, **11**, 109, ab.

Escherichia, see also Bacterium

— *-aerobacter* group, comparison of ten presumptive test media used in the detection of, in milk. Farrell, M. A., 1935, **30**, 654, ab.

— — intermediates. Tittsler, R. P., and Sandholzer, L. A., 1934, **27**, 42, ab.

— — — studies on cultural characteristics. Tittsler, R. P., and Sandholzer, L. A., 1935, **29**, 349

— — organisms, species responsible for defects in dairy products. Sarles, W. B., and Hammer, B. W., 1933, **25**, 62, ab.; 461

— and *Aerobacter*, differentiation by fermentation of sodium malonate. Leifson, E., 1933, **26**, 329

Esmarch cultures, mechanical spinner for. Gee, H., 1932, **24**, 35

Ether, antiseptic action of in peritoneal infections. Saliba, J., 1916, **1**, 567, ab.

Eubacteriales, classification of. Pribram, E., 1929, **17**, 8, ab.

— families of. Buchanan, R. E., 1917, **2**, 347

— nomenclature and classification of. Buchanan, R. E., 1917, **2**, 347

Euglena, culture media for. Strong, R. M., 1916, **1**, 693, ab.

Euglobulin, horse, and pneumococcus antibody solution purified according to Felton, spectrographic identity of. Coulter, C. B., Kabat, E. A., and Stone, F. M., 1935, **29**, 54, ab.

Evolution and classification of bacteria, comments on. Breed, R. S., Conn, H. J., and Baker, J. C., 1918, **3**, 445

— — relationship of the great groups of bacteria. Kligler, I. J., 1917, **2**, 165

Examinations, bacteriological, use of short answer questions in. Hunter, O., 1927, **13**, 70, ab.

Eye, common affections of the. Risley, S. D., 1916, **1**, 257, ab.

— localization of streptococci in. Irons, E. E., Brown, E. V. L., and Nadler, W. H., 1916, **1**, 699, ab.

— shade for use with the microscope. Kellert, E., 1916, **1**, 373, ab.

F

faeni, see Bacterium

fallax, see Clostridium

Fat production by *B. megatherium*, *B. mycoides*, and *B. albolactis*, effect of various substances upon. Sparrow, J. C., 1933, **25**, 36, ab.

Fats, natural, action of certain bacteria on, as shown by Nile-blue sulphate. Collins, M. A., and Hammer, B. W., 1934, **27**, 473

Fatty acids as sources of energy for *Azotobacter*. Gainey, P. L., 1928, **15**, 21, ab.

— — produced by *Aspergillus niger*. Schmidt, C. F., 1935, **30**, 445, ab.

Favus, vaccine for. Lavinder, C. H., 1916, **1**, 365, ab.

Fecal disinfection and pathogeny of diabetes. Palacios, G. D., 1916, **1**, 377, ab.

— organisms in water, Eijkman fermentation test as an aid in detection of. Leiter, L. W., 1929, **17**, 11, ab.

— — native, oral, subcutaneous, and intravenous vaccination with. Barnes, LaV., 1928, **15**, 43, ab.

Feces, *Bacterium typhosum* from, simple modification of the brilliant green method of isolating. Rakieten, M. L., and Rettger, L. F., 1926, **11**, 103, ab.

— *Blastocystis hominis;* characteristics and its prevalence in South Carolina. Lynch, K. M., 1917, **2**, 369

— *B. typhosus* from, use of glycerin in brilliant green bile for isolation of. Dehler, S. A., and Havens, L. C., 1926, **11**, 104, ab.

Feces, *B typhosus* from, value of petroleum-ether method for isolation of. Kohn, L. A., and Krumwiede, C., Jr., 1918, **3**, 361
— human, anaerobic, gram-positive nonspore-bearing in. Eggerth, A. H., 1935, **30**, 277
— — bacteroides of. Eggerth, A. H., and Gagnon, B. H., 1933, **25**, 389
— — *Bacterium coli* from, failure to grow at 46° in the Eijkman or Bulfr tests. Skinner, C. E., and Brown, J. W., 1934, **27**, 191
— — classification of streptococci of. Welch, H., 1929, **17**, 413
— — colon type bacteria occurring in, characteristics of. Rogers, L. A., Clark, W. M., and Lubs, H. A., 1916, **1**, 82, ab.; 1918, **3**, 231
— of newborn infants, isolation of an obligately anaerobic bacillus from, and its probable identity with the "Köpfchenbakterien" of Escherich, Rodella's "Bacillus III," and *Bacillus paraputrificus* (Bienstock). Hall, I. C., and Snyder, M. L., 1934, **28**, 181
— typhoid and paratyphoid bacilli from, use of brilliant green for the isolation of. Krumwiede, C., Jr., Pratt, J. S., and McWilliams, H. I., 1916, **1**, 129, ab.
Feeds, importance as a source of ropy milk organisms. Stark, C. N., and Foter, M. J., 1931, **21**, 37, ab.
Fermentation, abnormal gassy, in Emmenthal or Swiss cheese, strain of *Clostridium welchii* causing. Albus, W. R., 1928, **15**, 203
— acetone-butyl alcohol, inhibition by acids. Wynne, A. M., 1931, **22**, 209
— agar slants in detecting. Conn, H. J., and Hucker, G. J., 1920, **5**, 433
— alcoholic, of cane molasses, acceleration by the use of vegetable carbons and other inert substances. Owen, W. L., and Denson, W. P., 1929, **17**, 28, ab.
— bacterial, in cellobiose. Tittsler, R. P., and Sandholzer, L. A., 1935, **29**, 20, ab.
— — of poi. Allen, E. K., and Allen, O. N., 1932, **23**, 63, ab.
— cellulose, China blue-aurin-cellulose medium for physiological investigation of. Sanborn, J. R., 1928, **15**, 33, ab.
— characteristics, some, of *Rhizobium meliloti* and *Rhizobium japonicum*. Walker, R. H., and Brown, P. E., 1930, **19**, 41, ab.
— cellulose, physiological studies of. Sanborn, J. R., 1928, **16**, 315
— continuous lactic, of whey. Rogers, L. A., and Whittier, E. O., 1931, **21**, 37, ab.
— decreasing rate of. Rahn, O., 1929, **18**, 207
— endpoint of, changes in, by very large seeding. Rahn, O., 1929, **17**, 28, ab.
— gaseous associative, in milk, acidoproteolytes in. Gorini, C., 1934, **27**, 69, ab.
— gassy, in processed Swiss cheese containing pimentos. Albus, W. R., 1927, **13**, 66, ab.
— lactic, limiting factors in. Rogers, L. A., and Whittier, E. O., 1927, **13**, 10, ab.; 1928, **16**, 211
— mixtures, method for the determination of ethyl and butyl alcohols in. Werkman, C. H., and Osburn, O. L., 1931, **21**, 20, ab.
— new, yielding butyl and isopropyl alcohols. Morikawa, K., and Prescott, S. C., 1927, **13**, 58, ab.
— thermophilic, of beet pulp. Werkman, C. H., and Stritar, J., 1932, **23**, 70, ab.
— trimethylene glycol. Werkman, C. H., Davis, C. W., and Tarnutzer, C. A., 1933, **25**, 33, ab.
— of alpha-methyl-d-glucoside by members of the coli-aerogenes group. Koser, S. A., and Saunders, F., 1932, **24**, 267

Fermentation of citron. Fellers, C. R., and Smith, E. G., 1934, **27,** 63, ab.
— — glycogen by pneumococci. Barnes, L. A., and White, B., 1934, **27,** 106, ab.
— — lactose peptone bile and lactose broth, fallacy of refined readings of gas percentages in the fermentation of. Browne, W. W., and Ackman, B., 1917, **2,** 249
— — pentoses by certain propionic acid bacteria. Foote, M., Peterson, W. H., and Fred, E. B., 1930, **19,** 17, ab.
— — polyhydric alcohols by the colon-aerogenes groups of bacteria. Poe, C. F., and Field, J. T., 1931, **21,** 11, ab.
— — sauerkraut, floral changes in. Pederson, C. S., 1931, **21,** 36, ab.
— — sodium malonate as a means of differentiating *Aerobacter* and *Escherichia*. Leifson, E., 1933, **28,** 329
— — sorbitol and trehalose by haemolytic streptococci from various sources. Plummer, H., 1934, **27,** 465
— studies, coagulable sugar-free base for. Spray, R. S., 1932, **23,** 43, ab.
Fermentations, certain abnormal, in dairy products, relationship of anaerobic bacteria to. Hussong, R. V., and Hammer, B. W., 1930, **19,** 95
— methane, use of shredded asbestos in. Breden, C. R., and Buswell, A. M., 1933, **25,** 69, ab.; **26,** 379
— organic acids produced in, determination of. Osburn, O. L., and Werkman, C. H., 1933, **25,** 68, ab.
Fermenting capacity of a single cell, formula for. Rahn, O., 1930, **19,** 383
Fermentometer, the. Rahn, O., 1929, **18,** 199
Ferments, digestive, relation to d'Herelle's phenomenon. McKinley, E. B., 1923, **8,** 543
Ferrets, susceptibility of, to the virus of common cold. Noble, W. C., Jr., and Brainard, D. H., 1935, **29,** 407
Ferricyanide reducing activities in glucose-peptone cultures and suspensions of *Escherichia coli*. Clifton, C. E., and Cleary, J. P., 1934, **28,** 561; *ibid.*, — and Beard, P. J., 1934, **28,** 541
Ferrification in soils. Brown, P. E., and Corson, G. E., 1916, **1,** 95, ab.
Fertilizers, effect on soybeans. Batchelor, H. W., and Curie, I. H., 1928, **15,** 22, ab.
— influence of *Rhizobium* in soils. Lochhead, A. G., and Thexton, R. H., 1935, **29,** 77, ab.
Fevers, artificially induced, symptomatic herpetic manifestations following. Boak, R. A., Carpenter, C. M., and Warren, S. L., 1934, **27,** 83, ab.
Fibrinolytic activity of hemolytic streptococci, relation to source of strains and cultural reactions. Tillett, W. S., 1935, **29,** 111
Field and laboratory experiments in soil biology, comparison of. Koch, G. P., 1916, **1,** 675, ab.
— work during the canning season of 1928, scope and findings. Cameron, E. J., 1929, **17,** 31, ab.
Filaria sanguinis hominis. Phipps, C., 1916, **1,** 266, ab.
Filters, collodion membrane. Asheshov, I., I, 1933, **25,** 323; II, 339
Filtrability, bacterial variation with special reference to. Rettger, L. F., and Gillespie, H. B., 1933, **26,** 289
— studies on *B. mesentericus* and *B. vulgatus*. Flynn, C. S., and Rettger, L. F., 1934, **28,** 1
Filtrates, bacterial, reactivity of skin to. Shwartzman, G., 1935, **29,** 30, ab.

Filtrates of cultures of hemolytic streptococcus, organisms recovered from. Nicholls, E. E., 1935, **30,** 443, ab.
— various bacterial culture, phenomenon of local skin reactivity to. Shwartzman, G., 1931, **21,** 56, ab.
Filtration experiments, some factors involved in. Grinnell, F. B., 1929, **18,** 175
— — with atypical acid-fast organisms. Pinner, M., 1933, **25,** 576
— studies with *L. acidophilus*. Raney, M. E., and Kopeloff, N., 1934, **27,** 45, ab.
— technic. Gee, H., 1932, **24,** 29
Finger nail deposits, microscopic examination of. Schneider, S., 1916, **1,** 578, ab.
Fire blight bacteria, insects in the dissemination of. Stewart, V. B., and Leonard, M. D., 1916, **1,** 384, ab.
— — in the Yakima valley. Hotson, J. W., 1916, **1,** 705, ab.
Fish, decomposition of, relationships of marine bacteria to. Sanborn, J. R., 1930, **19,** 375
— fresh, marine bacteria commonly found on. Sanborn, J. R., 1932, **23,** 349
— handlers, distinct form of erysipeloid among, caused by the bacillus of swine erysipelas. Harkins, M. J., 1927, **13,** 32, ab.
— muscle, biochemical changes exhibited in, stored at different temperatures under normal and sterile conditions. Nickerson, J. T. R., and Proctor, B. E., 1935, **29,** 72, ab.
— (*Stenomus chrysops*), presence of the *B. coli* and *B. welchii* groups in the intestinal tract of. Browne, W. W., 1917, **2,** 417
— sterility of tissues of. Proctor, B. E., and Nickerson, J. T. R., 1935, **30,** 377
— tissues, investigation of sterility of. Proctor, B. E., and Nickerson, J. T. R., 1935, **29,** 71, ab.
flabelliferum, see Clostridium
Flagella, bacterial, method of staining. Gray, P. H. H., 1926, **12,** 273
— — — — — — and study of origin. Leifson, E., 1930, **20,** 203
— — staining of, with special reference to mordants. Maneval, W. E., 1931, **21,** 313
— development on germinating spores. Leifson, E., 1931, **21,** 357
— stain, Loeffler's, modification of. Shunk, I. V., 1920, **5,** 181
flavus-oryzae, see Aspergillus
Flora, duodenal, in achlorhydria. Ricen, L., Sears, H. J., and Downing, L. M., 1928, **15,** 46, ab.
Flow of broth, continuous, growth of bacteria in. Rogers, L. A., 1930, **19,** 7, ab.
Fluorescence, bacterial, inorganic substances necessary for. Georgia, F. R., and Poe, C. F., 1931, **22,** 349
— — production in media made from peptones. Georgia, F. R., and Poe, C. F., 1932, **23,** 135
fluorescens, see Pseudomonas
Focal infection in relation to certain dermatoses. Ravitch, M. L., 1916, **1,** 695, ab.
foetidus-ozaenae, see Bacterium
Food factors, accessory, rôle in the physiology of microörganisms. Werkman, C. H., 1926, **11,** 86, ab.
— handlers, healthy, non-lactose fermenting bacteria from the stools of, comparative bacteriological study. Kriebel, R. M., 1934, **27,** 357
— poisoning by *Bacillus paratyphosus B.* Bernstein, H. S., and Fish, E. S., 1916, **1,** 361, ab.
— products, certain, action of hexylresorcinol on bacteria in. Poe, C. F., and Fehlmann, H. A., 1933, **25,** 521
— substances, essential, in soil. Sanborn, J. R., 1927, **13,** 113

Foods, effect of discontinuous refrigeration on bacteria in. Prescott, S. C., Bates, P. K., and Needle, H. C., 1931, **21,** 25, ab.
— frozen, from the health standpoint. James, L. H., 1933, **25,** 74, ab.
— — pack, destruction and survival of microörganisms in. Berry, J. A., 1933, **26,** 459
Foodstuffs, influence upon the respiratory metabolism and growth of human tubercle bacilli. Loebel, R. O., Shorr, E., Richardson, H. B., 1933, **26,** 139
Foot and mouth disease in man. Sutton, R. L., and O'Donnell, A., 1916, **1,** 376, ab.
— — — — recent research on. Schoening, H. W., 1927, **13,** 21, ab.
Forage poisoning in horses, relation of *B. botulinus* to. Graham, R., and Brueckner, A. L., 1919, **4,** 1
Formaldehyde, isolation and possible intermediary rôle of, in the propionic acid fermentation. Wood, H. G., and Werkman, C. H., 1935, **30,** 652
Fouling of submerged surfaces, marine bacteria causing. Zobell, C. E., and Allen, E. C., 1935, **29,** 239
Fowl, cholera, toxins of *Bacillus aviseptiçus*. Hadley, P., 1918, **3,** 277
— domestic, bacteriophage in relation to *Salmonella pullora* in. Pyle, N. J., 1926, **12,** 245
— — saprophytic and secondary bacteria occurring in the respiratory tracts of in infectious trachitis and in health, relation to production of agglutinins in the blood? Gibbs, C. S., 1931, **21,** 45, ab.
— typhoid, outbreak of. Taylor, W. J., 1916, **1,** 357, ab.
Fowls, domestic, pullorum disease in, serological diagnosis of, chemical nature and mechanism of the "cloudy" reaction. Valley, G., and Casman, E. P., 1930, **19,** 36, ab.
— — saprophytic and secondary microorganisms occurring in the respiratory tracts of in health and disease. Gibbs, C. S., 1931, **21,** 97
Foxes, distemper in, etiology of. Green, R. G., and Halvorson, H. O., 1926, **11,** 100, ab.
— epidemic encephalitis in. Green, R. G., Ziegler, N. R., Halvorson, H. O., Green, B. B., and Dewey, E. T., 1928, **15,** 47, ab.
— — — — — symptoms of. Green, R. G., 1928, **15,** 48, ab.
— epizootic encephalitis of, experimental transmission of. Green, R. G., Ziegler, N. R., Dewey, E. T., and Shillinger, J. E., 1929, **17,** 54, ab.
Freezing, bacterial changes induced by, acidity in relation to. Broadhurst, J., and Gilpin, L., 1926, **11,** 95, ab.
— effect on *Cl. botulinum* spores. James, L. H., 1932, **23,** 47, ab.
— — — yeasts. Tanner, F. W., and Williamson, B., 1928, **15,** 23, ab.
— in domestic refrigerators, reduction of the number of organisms in water as a result of. Prescott, S. C., and Bates, P. K., 1931, **21,** 26, ab.
Freshwater bacteria, direct microscope for study of technique. Henrici, A. T., 1933, **25,** 277
— — in the sea, fate of. Burke, V., and Baird, L. A., 1931, **21,** 287
— — stalked, new order of. Henrici, A. T., and Johnson, D. E., 1935, **30,** 61
Frogs, experimental immunization against *Proteus hydrophilus*, the etiological agent of "red-leg" disease. Kulp, W. L., and Lackman, D., 1934, **27,** 86, ab.
Fruit juices, electro-silver preservation of. James, L. H., and Beavens, E. A., 1935, **29,** 73, ab.
Fuchsin-aldehyde reaction on the Endo medium. De Bord, G. G., 1917, **2,** 309

Fugitive wanderings. Meyer, K. F., 1935, **30**, 446, ab.
Fungi, action of sulphur on. Wilcoxon, F., and McCallan, S. E. A., 1935, **30**, 441, ab.
— and actinomycetes, soil, proteolytic enzymes of. Waksman, S. A., 1918, **3**, 509
— from the skin in an epidemic of perlèche, genera *Candida, Cryptococcus* and *Mycoderma*. Pribram, E., 1930, **19**, 31, ab.
— in soils. Waksman, S. A., 1916, **1**, 101, ab.
— method of separating from protozoa and bacteria. Kopeloff, N., Lint, H. C., and Coleman, D. A., 1916, **1**, 373, ab.
— soil, ammonification by, effect of soil reaction on. Kopeloff, N., 1916, **1**, 675, ab.
— — and their activities. Waksman, S. A., 1916, **1**, 679, ab.
— — environmental factors influencing the activity of. Coleman, D. A., 1916, **1**, 677, ab.
— — incubation studies with. Waksman, S. A., 1916, **1**, 555, ab.
— — inoculation and incubation of. Kopeloff, N., 1916, **1**, 557, ab.
— — method for counting. Waksman, S. A., 1922, **7**, 339
— — proteolytic activities of. Waksman, S. A., 1918, **3**, 475
— yeast-like, multiplication on synthetic nutrient solutions. Tanner, F. W., Devereux, E. D., and Higgins, F. M., 1926, **11**, 45
Fungicides, action on yeast-like organisms and fungi from vulvovaginal region. Hesseltine, H. C., and Hopkins, E. W., 1935, **29**, 8, ab.
Fungous phases in bacteria; zygotes and sporangia. Broadhurst, J., 1934, **27**, 48, ab.
Furnace, electrical, for sterilizing inoculating loops. Corper, H. J., 1916, **1**, 256, ab.
Furunculosis, vaccine therapy and other treatment of. Fox, H. H., 1916, **1**, 682, ab.
Fusiform bacilli, classification of, serological. Varney, P. L., 1927, **13**, 275
— — distribution in tissue. Pilot, I., 1926, **11**, 114, ab.
— — in the mouths of a group of young adults. Hotchkiss, M., 1931, **21**, 44, ab.
— — of Vincent's angina. Gifford, S. R., 1920, **5**, 365
— bacteria, systematic study of. Slanetz, L. W., and Rettger, L. F., 1933, **25**, 43, ab.; **26**, 599
fusiformis, see Bacterium
Fuso-spirillary organism, a, bacteriology of with special reference to its life history. Mellon, R. R., 1919, **4**, 505

G

Galactose, fermentation of by *Saccharomyces cerevisiae*. Söhngen, N. L., and Coolhaas, C., 1924, **9**, 131
Gallbladder diseases. Mayo, C. H., 1916, **1**, 261, ab.
gallinarum, see Bacterium
Gas bacillus infection with remarks on gastric ulcer. West, R., and Stewart, M. E., 1916, **1**, 697, ab.
— hastening, appearance of in presumptive coli tests. Broadhurst, J., 1929, **17**, 12, ab.
— mixtures, apparatus for the control of composition and rate of flow through culture solutions. Senseman, C. E., 1934, **27**, 62, ab.
— percentages in the fermentation of lactose peptone bile and lactose broth, fallacy of refined readings. Browne, W. W., and Ackman, B., 1917, **2**, 249
— production by baker's yeast, effect of certain chemical compounds on the course of. Branham, S. E., 1929, **18**, 247

Gases produced in bacterial growth, aeration train for study of. Walker, H. H., 1930, **19**, 6, ab.
Gastric secretion, influence of environmental changes upon. Arnold, L., 1928, **15**, 46, ab.
— ulcer, chronic, experimental studies in production of. Wilensky, A. O., and Geist, S. H., 1916, **1**, 580, ab.
— — treatment of. Andresen, A. F. R., 1916, **1**, 262, ab.
Gastro-intestinal findings in acne vulgaris. Ketron, L. W., and King, J. H., 1916, **1**, 695, ab.
— — poison produced by *Bacterium enteritidis* and by *Bacterium paratyphosum B* (Aertrycke type). Branham, S. E., Robey, L., and Day, L. A., 1928, **15**, 36, ab.
Gelatin, effect of on the bacterial content of ice cream mix. Fay, A. C., and Olson, N. E., 1927, **14**, 363
— liquefaction by bacteria. Levine, M., and Carpenter, D. C., 1923, **8**, 297
— — — — further observations. Levine, M., and Shaw, F. W., 1924, **9**, 225
— — — — Ostwald viscosimeter for determination of. Shaw, F. W., 1924, **9**, 315
— quantitative action of enzymes of seven specific organisms upon. Parfitt, E. H., and Spitzer, G., 1924, **9**, 123
Gelatinase, conditions affecting production of by proteus bacteria. Merrill, A. T., and Clark, W. M., 1928, **15**, 267
Gelatinolysis by aerogenic anaerobes. Stahly, G. L., and Werkman, C. H., 1933, **25**, 37, ab.
Genera, bacterial, chart of. Macy, H., 1921, **6**, 575
— — physiology as basis for differentiation of. Buchanan, R. E., 1928, **15**, 7, ab.
Genitalia, female, influence of radium treatment upon the bacterial flora of. Pribram, E., and Schmitz, H., 1932, **23**, 107, ab.
Genito-urinary infections, thirty strains of Gram-positive cocci from. Stadnichenko, A. M. S., 1929, **17**, 303
— — two hundred Gram-negative bacilli from cases of. Hill, J. H., Seidman, L. R., Stadnichenko, A. M. S., and Ellis, M. G., 1927, **13**, 6, ab.; 1929, **17**, 205
— tract, *Cladothrix* isolated from the. Scudder, S. A., and Belding, D. L., 1926, **11**, 102, ab.
Gentian violet, bacteriostatic action of, and its dependence on the oxidation-reduction potential. Ingraham, M. A., 1933, **26**, 573
— — — effect on thermophilic spore-forming bacteria. Cameron, E. J., 1930, **19**, 52, ab.
— — behavior in bacteriological media. Stearn, E. W., and Stearn, A. E., 1923, **8**, 567
— — in presumptive tests for *B. coli* in milk, with reference to sporulating anaerobes. Hall, I. C., and Ellefson, L. J., 1918, **3**, 355
— — relation between bacteriostatic action of and the oxidation-reduction potential of the medium. Ingraham, M. A., and Fred, E. B., 1933, **25**, 23, ab.
— — stabilized. Stovall, W. D., and Nichols, M. S., 1916, **1**, 576, ab.
— — use of to eliminate spurious presumptive tests for *B. coli* in water. Hall, I. C., and Ellefson, L. J., 1918, **3**, 329
— violets, American, investigation of. Conn, H. J., 1922, **7**, 529
Germanic oxide, methyl, stimulation of bacterial growth by. Carpenter, P. L., Fulton, M., and Stuart, C. A., 1935, **29**, 18, ab.; 1935, **30**, 137
Germicidal action in milk. Chambers, W. H., 1920, **5**, 527
— — of freezing temperatures. Hilliard, C. M., and Davis, M. A., 1918, **3**, 423

Germicidal agents, comparative methods of testing. Leonard, G. F., and Heacock, E., 1928, **15**, 15, ab.
— efficiency of various alkaline washing compounds, index for designating. Levine, M., and Buchanan, J. H., 1928, **15**, 15, ab.
Germicides, certain, efficiency in the preservation of biologic products. Malcolm, W. G., 1931, **22**, 403
— chloramine-T and calcium hypochlorite as. Charlton, D. B., and Levine, M., 1935, **30**, 163
— phenol coefficient of. Kilmer, F. B., Clark, A. W., and Hampton, P., 1916, **1**, 126, ab.
— phenolic, effect of pure soaps on the bactericidal properties of. Hampil, B., 1928, **16**, 287
Germination, bacterial spore, in relation to environment. Morrison, E. W., and Rettger, L. F., 1930, **20**, 313
gintolense, see Bacterium
Glass, bactericidal effects of sunlight as affected by. Hausmann, T. W., 1929, **17**, 46, ab.
Glucosamine, action of *B. diphtheriae* and some related organisms on. Noble, W. C., Jr., and Knacke, F. E. D., 1928, **15**, 55
Glucose and arabinose, products from the fermentation of, by butyric acid anaerobes. Langlykke, A. F., and Fred, E. B., 1935, **29**, 86, ab.
— — — — — — — — — — — — — Langlykke, A. F., Peterson, W. H., and McCoy, E., 1935, **29**, 333
— dissimilation of, by hetero-fermentative lactic acid bacteria. Nelson, M. E., and Werkman, C. H., 1935, **30**, 547
— — — — propionic acid bacteria. Wood, H. G., Stone, R. W., and Werkman, C. H., 1935, **29**, 84, ab.
— esterification, influence of KCl on micrometabolism of yeasts. Pribram, E. A., and Kotler, L., 1935, **29**, 21, ab.
— fermentation by bacteria of the genus *Serratia*. Pederson, C. S., and Breed, R. S., 1928, **15**, 10, ab.; **16**, 163
— -peptone cultures and suspensions of *Escherichia coli*, oxidation-reduction potentials and ferricyanide reducing activities in. Clifton, C. E., and Cleary, J. P., 1934, **28**, 561
Glutathione, rôle of in the metabolism of yeast. Machlis, S., and Blanchard, K. C., 1935, **30**, 442, ab.
Glycerides, simple tri-, action of certain bacteria on, as shown by Nile-blue sulphate. Collins, M. A., and Hammer, B. W., 1934, **27**, 473
Glycerin in brilliant green bile for isolation of *B. typhosus* from feces, use of. Dehler, S. A., and Havens, L. C., 1926, **11**, 104, ab.
— metabolism of the tubercle bacillus. Dingle, J. H., and Weinzirl, J., 1932, **23**, 35, ab.
Glycerol, dissimilation of, by intermediate bacteria of the colon-aerogenes group. Reynolds, H., and Werkman, C. H., 1935, **30**, 652, ab.
— utilization of CO_2 by the propionic acid bacteria in the dissimilation of. Wood, H. G., and Werkman, C. H., 1935, **30**, 332, ab.
Glycine, N-chloro derivatives of, germicidal efficiency against anthrax spores. Tilley, F. W., and Chapin, R. M., 1930, **19**, 295
Glycogen, fermentation of by pneumococci. Barnes, L. A., and White, B., 1934, **27**, 106, ab.
Glycol fermentation, trimethylene. Werkman, C. H., Davis, C. W., and Tarnutzer, C. A., 1933, **25**, 33, ab.
— trimethylene, bacteria producing. Werkman, C. H., and Gillen, G., 1931, **21**, 6, ab.; 1932, **23**, 167
Glycuronic acid, fermentation of by certain bacteria. Quick, A. J., and Kahn, M. C., 1929, **18**, 133

Gnezda, test for indol based on the oxalic acid reaction of. Holman, W. L., and Gonzales, F. L., 1923, **8,** 577

Gonococcus, bio-chemistry of. Warden, C. C., 1916, **1,** 571, ab.

— complement fixation. Warden, C. C., and Schmidt, L. E., 1916, **1,** 571, ab.

— cultivating, rapid method of. Wherry, W. B., and Oliver, W. W., 1916, **1,** 373, ab.

— effect of sodium ricinoleate on. Miller, C. P., Jr., and Castles, R., 1931, **22,** 339

— growth of, natural and artificial, requirements for. Bristol, L. D., 1916, **1,** 694, ab.

— multiplication of, influence of inorganic salts on. Miller, C. P., Jr., Hastings, A. B., Castles, R., 1932, **24,** 439

— properties of a bouillon filtrate of. Clark, L. T., Ferry, N. S., and Steel, A. H., 1931, **21,** 58, ab.

— sterilizable culture medium for. Hall, I. C., 1916, **1,** 343

Gonorrhea and its complications. Hyman, A., 1916, **1,** 689, ab.

— in a reformatory for women. Sullivan, E. A., and Spaulding, E. R., 1916, **1,** 263, ab.

— joint manifestations of, antimeningococcic serum in the. Malleterre, F., 1916, **1,** 582, ab.

— prompt cure of. Wyeth, G. A., 1916, **1,** 260, ab.

gonorrhoeae, see Gonococcus and *Neisseriae*

Gorham, Frederic Poole. 1871–1933. Round, L. A., 1933, **26,** 431

Grain, Lactobacilli of. Hunt, G. A., and Rettger, L. F., 1930, **20,** 61

Gram compound, nature of, and its bearing on the mechanism of staining. Stearn, A. E., and Stearn, E. W., 1930, **20,** 287

— -negative and gram-positive bacteria in tissue sections, method for differential staining. Brown, J. H., and Brenn, L., 1931, **21,** 21, ab.

— — — microörganisms, differentiation by the use of enzymes. Bruner, D. W., 1933, **26,** 361

— bacilli isolated from cases of genito-urinary infection, study of two hundred cultures. Hill, J. H., Seidman, L. R., Stadnichenko, A. M. S., Ellis, M. G., 1927, **13,** 6, ab.; 1929, **17,** 205

— — of genus *Bacteroides*. Thompson, L., and Henthorne, J. C., 1935, **29,** 5, ab.

Gram-positive bacteria, distinguishing living from dead cells of by stained preparations. Frazier, W. C., and Boyer, A. J., 1934, **27,** 31, ab.

— cocci, thirty strains from genito-urinary infections. Stadnichenko, A. M. S., 1929, **17,** 303

— organisms, certain, correlation of variation in dye sensitivity with gram character in. Stearn, E. W., 1927, **14,** 349

Gram reaction, a new theory of. Stearn, E. W., and Stearn, A. E., 1924, **9,** 479

— — and electrical charge of bacteria. Burke, V., and Gibson, F. O., 1933, **26,** 211

— — cell wall a factor in. Burke, V., and Barnes, M., 1928, **15,** 12, ab.

— — — — and. Burke, V., and Barnes, M. W., 1929, **18,** 69

— — factors controlling. Stearn, E. W., and Stearn, A. E., 1924, **9,** 463

— stain, a new modification and application. Hucker, G. J., 1921, **6,** 395

— — and differential staining. Kaplan, M. L., and Kaplan, L., 1933, **25,** 309

— — further studies on a modification of. Kopeloff, N., and Cohen, P., 1928, **15,** 12, ab.

— — modification of. Atkins, K. N., 1920, **5,** 321

— — notes, with description of a new method. Burke, V., 1922, **7,** 159

Gram structure of cocci. Churchman, J. W., 1929, **18**, 413
Granuloma, coccidioidal, case of. Lipsitz, S. T., Lawson, G. W., and Fessenden, E. M., 1916, **1**, 579, ab.
granulosis, see Bacterium
Growth, aerobic, oxidation-reduction potentials and. Wood, W. B., Jr., Wood, M. L., and Baldwin, I. L., 1935, **30**, 593
— associated, effect on the forms of lactic acid produced by certain bacteria. Tatum, E. L., Fred, E. B., and Peterson, W. H., 1932, **23**, 73, ab.
— bacterial, aeration train for study of gases produced in. Walker, H. H., 1930, **19**, 6, ab.
— — application of statistics to analysis of. Ziegler, N. R., and Halvorson, H. O., 1935, **29**, 609
— — "black beets," a problem involving stimulation by iron. Cameron, E. J., 1934, **27**, 60, ab.
— — cycles of population in. Jennison, M. W., 1935, **30**, 603
— — effect of filtrates of certain intestinal microbes upon. Upton, M. F., 1929, **17**, 315
— — — — — synthetic surface-active materials on. Effect of sodium disecondary butyl naphthalene sulphonate on the growth of *Mycobacterium smegmatis*. Katz, J., and Lipsitz, A., 1935, **30**, 419
— — electrophoretic velocities in phases of. Buggs, C. W., and Green, R. G., 1935, **30**, 453
— — factors influencing, in veal infusion. Koser, S. A., and Saunders, F., 1935, **29**, 17, ab.
— — — — numbers in. Cleary, J. P., Beard, P. J., and Clifton, C. E., 1935, **29**, 205
— — — limiting at higher temperatures. Casman, E. P., and Rettger, L. F., 1931, **21**, 27, ab.; 1933, **26**, 77
— — inhibited by x-radiation of extract agar used for *B. subtilis*. Blank, I. H., and Kersten, H., 1935, **30**, 21
— — inhibition of by a mold or its metabolic products. Reid, R. D., 1934, **27**, 28, ab.
— — — — — — broth culture filtrates. Barnes, L. A., 1931, **21**, 395
— — interfacial tension and. Davis, N., 1927, **13**, 381
— — peroxidase in relation to, with special reference to the influenza bacillus. Anderson, L. R., 1930, **20**, 371
— — quantitative estimation of. Mueller, J. H., 1935, **29**, 383
— — — relations of cycles of population in. Jennison, M. W., and Bunker, J. W. M., 1935, **29**, 19, ab.
— — rates of, under optimal conditions. Mason, M. M., 1935, **29**, 103
— — requirements of, *B. diphtheriae* and. Mueller, J. H., 1935, **29**, 515
— — stimulated by methyl germanic oxide. Carpenter, P. L., Fulton, M., and Stuart, C. A., 1935, **29**, 18, ab.
— — — — — — — — Carpenter, P. L., Fulton, M., and Stuart, C. A., 1935, **30**, 137
— — with automatic pH control. (A) an apparatus. (B) some tests on the acid production of *Lactobacillus acidophilus*. Longsworth, L. G., and MacInnes, D. A., 1935, **29**, 595
— curve, autocatalytic, application to microbial metabolism. Pulley, H. C., and Greaves, J. D., 1932, **24**, 145
— — of bacteria in various media, influence of aeration and sodium chloride upon. Winslow, C.-E. A., Walker, H. H., and Sutermiester, M., 1932, **24**, 185
— — — *Escherichia coli* and *Salmonella schottmuelleri* in mixed cultures. Fulton, M., and Stuart, C. A., 1935, **29**, 18, ab.
— cycle of colon-group of organisms, metabolic activity during phases of. Mooney, G., and Winslow, C.-E. A., 1935, **30**, 427

Growth in size of bacilli and yeast, phases measured from motion pictures. Bayne-Jones, S., and Adolph, E. F., 1932, **23,** 14, ab.
— intermittent, of bacterial cultures. Rogers, L. A., and Greenbank, G. R., 1930, **19,** 181
— natural range of, lethal environmental factors within. Sherman, J. M., and Cameron, G. M., 1934, **27,** 341
— of bacteria in a continuous flow of broth. Rogers, L. A., 1930, **19,** 7, ab.; — and Whittier, E. O., 1930, **20,** 127
— — — measuring with the nephelometer. Colley, M. W., 1926, **11,** 91, ab.
— — — relationship of heat production to phases of. Bayne-Jones, S., and Rhees, H. S., 1929, **17,** 123
— — *H. influenzae*, influence of v-factor and air upon. Pittman, M., 1935, **30,** 149
— rate of individual bacterial cells. Kelly, C. D., and Rahn, O., 1932, **23,** 147
— — — Rhizobia. Cameron, G. M., and Sherman, J. M., 1935, **30,** 647
— retardation by freshly distilled water. Hegarty, C. P., and Rahn, O., 1934, **28,** 21
— restraining substance in raw milk, origin and action upon an organism of the sweet curdling type. Curran, H. R., 1931, **21,** 38, ab.
— stimulation of, in Rhizobia. Sarles, W. B., and Reid, J. J., 1935, **30,** 651, ab.
Guinea-pig, epizootic lymphadenitis in. Megrail, E., and Hoyt, R. N., 1929, **17,** 54, ab.
— — tests for the virulence of diphtheria bacilli. Kolmer, J. A., Woody, S. S., and Moshage, E. L., 1916, **1,** 382, ab.
— — identification of under treatment. Hitchens, A. P., 1916, **1,** 541
— — intravenous injection of. Roth, G. B., 1921, **6,** 249
— — passive sensitization of with immune serum from rabbits and chickens. Sherwood, N. P., and Downs, C. M., 1927, **13,** 39, ab.
Gum levan, formation of from sucrose. Owen, W. L., 1923, **8,** 421
— produced by root nodule bacteria of the leguminosae. Hopkins, E. W., Peterson, W. H., and Fred, E. B., 1929, **17,** 22, ab.
— production by *Azotobacter chroococcum* of Beijerinck and its composition. Hamilton, W. B., 1931, **22,** 249

H

Haddock, muscle, chemical changes of, in sterile and contaminated, at different temperatures. Nickerson, J. T. R., and Proctor, B. E., 1935, **30,** 383
Haeckel, biogenetic law of, and origin of heterogeneity within pure lines of bacteria. Mellon, R. R., 1926, **11,** 203
Haematoxins, action of on oxygenated and reduced blood cells. Reed, G. B., and Orr, J. H., 1928, **15,** 36, ab.
Haemolytic streptococci, serological study of. Plummer, H., 1935, **30,** 5
haemolyticus, see Streptococcus
Halibut, discoloration of. Harrison, F. C., and Sadler, W., 1929, **17,** 29, ab.
Halogenacetyl compounds, relation between constitution and bactericidal action in the quarternary salts obtained from. Jacobs, W. A., Heidelberger, M., and Buil, C. G., 1916, **1,** 460, ab.
Halogen derivatives of phenol and resorcinol, germicidal action of and its impairment by organic matter. Klarmann, E., Shternov, V. A., and von Wowern, J., 1929, **17,** 423
Halophilic bacteria. LeFevre, E., and Round, L. A., 1919, **4,** 177

Hartford (Conn.) waterworks notes. Saville, C. M., 1916, **1**, 251, ab.
Hay, alfalfa, bacterial decomposition of. Phillips, M., Goss, M. J., Beavens, E. A., and James, L. H., 1935, **29**, 83, ab.
— — effect of salting on microbial heating of. Stuart, L. S., and James, L. H., 1930, **19**, 53, ab.
— fever, cause, treatment, and prevention. Scheppegrell, W., 1916, **1**, 684, ab.
— — pollen extracts and vaccines in. Strouse, S., and Frank, I., 1916, **1**, 255, ab.
Heart, embryonic chicken, allergic responses of. Sherwood, N. P., 1927, **13**, 38, ab.
— mammalian, isolated, analysis of anaphylactic and immune reactions by means of. Manwaring, W. H., Meinhard, A. R., and Denhart, H. L., 1916, **1**, 687, ab.
— unique lesion of in systemic blastomycosis. Hurley, T. B., 1916, **1**, 376, ab.
Heat, electrophoretic velocities of bacteria influenced by. Dozois, K. P., and Hachtel, F., 1935, **30**, 473
— mortality of bacteria exposed to, effect of cell concentration and age of culture on the. Watkins, J. H., and Winslow, C.-E. A., 1932, **23**, 51, ab.
— — — — — — factors determining the rate of. Watkins, J. H., and Winslow, C.-E. A., 1932, **22**, 243
— produced by alternating electric current, effect on tubercle bacilli in milk. Carpenter, C. M., 1929, **17**, 38, ab.
— — — an ultra-high frequency oscillator, effect on experimental syphilis in rabbits. Carpenter, C. M., and Boak, R. A., 1930, **19**, 24, ab.
— production, and phases of the growth of bacteria. Bayne-Jones, S., and Rhees, H. S., 1929, **17**, 123
— — in bacterial cultures, application of Buchanan's formula to. Wetzel, N. C., 1929, **18**, 117
— — — moist organic materials with special reference to the part played by microörganisms. James, L. H., Rettger, L. F., and Thom, C., 1928, **15**, 117
— — spontaneous, in bacterial decomposition of alfalfa hay. Phillips, M., Goss, M. J., Beavens, E. A., and James, L. H., 1935, **29**, 83, ab.
— resistance of bacterial spores. Morrison, E. W., and Rettger, L. F., 1930, **20**, 299
— — — — — — factors influencing. Williams, O. B., 1929, **17**, 16, ab.
— — — non-spore-forming bacteria, influence of age of culture on. Robertson, A. H., 1928, **15**, 27, ab.
Heating, microbial, of alfalfa hay, effect of salting on. Stuart, L. S., and James, L. H., 1930, **19**, 53, ab.
Hemicellulose - decomposing bacteria. Norman, A. G., 1932, **23**, 72, ab.
Hemocyanins of *Limulus polyphemus* and *Busycon (fulgur) caniculatum;* antigens of high molecular weight. Hooker, S. B., and Boyd, W. C., 1935, **29**, 57, ab.
hemoglobinophilus canis, see Bacterium
Hemolysin, light-activated, produced by *B. influenzae*. Ward, H. K., 1928, **15**, 51
— pneumococcal, oxidation and reduction reactions of. Cohen, B., and Shwachman, H., 1935, **29**, 54, ab.
— production. Frobisher, M., Jr., and Denny, E. R., 1928, **16**, 109
— tests as measures of the pathogenicity of staphylococci. Chapman, G. H., Berens, C., Peters, A., and Curcio, L., 1934, **28**, 343
Hemolysins, effect of moderately high atmospheric temperature on the formation of. Winslow, C.-E. A., Miller, J. A., and Noble, W. C., 1916, **1**, 365, ab.
— iso-. Downs, C. M., Koerber, K., and Jones, H. P., 1928, **15**, 41, ab.

Hemolysins, nature of. Connell, J. T., and Holly, L. E., 1921, **6**, 89
Hemolysis of red blood cells treated with acids or alkalies, variations in reaction of blood of different species as indicated by. Cumming, J. G., 1916, **1**, 462, ab.
Hemolytic streptococci, fibrinolytic activity of, in relation to source of strains and to cultural reactions. Tillett, W. S., 1935, **29**, 111
— — found in milk, significance and relation to streptococci of human origin. Davis, D. J., 1916, **1**, 83, ab.
hemolyticus, see Streptococcus
Hemophilic bacteria, blood-clot digest medium for. Spray, R. S., 1927, **13**, 14, ab.
Hemophilus canis, emend. Rivers, T. M., 1922, **7**, 579
— *see* also Influenza bacillus
— *see Bacterium*
Hemp, manila, microbiology of. Bates, P. K., and Prescott, S. C., 1927, **13**, 67, ab.
Hepato-enteritis, epizootic, in guinea pigs. Morcos, Z., 1933, **25**, 239
Heredity as a factor in the resistance of rats to *Salmonella enteritidis*. Irwin, M. R., 1933, **25**, 93, ab.
— microbic, biogenetic law of Haeckel and the origin of heterogeneity within pure lines of bacteria. Mellon, R. R., 1926, **11**, 203
— — genetic origin of *Staphylococcus albus* and *aureus* from common ancestral strains. Mellon, R. R., and Caldwell, D. W., 1926, **12**, 409
— — — — — — the types of fungi found in lesions of blastomycosis hominis. Mellon, R. R., 1926, **11**, 419
— — in the colon-typhoid group. Mellon, R. R., 1925, **10**, 481
— — infective and taxonomic significance of a newly described ascospore stage for the fungi of blastomycosis. Mellon, R. R., 1926, **11**, 229
— — infectivity and virulence of a filtrable phase in the life history of *B. fusiformis* and related organisms. Mellon, R. R., 1926, **12**, 279
— — microbic dissociation in vivo as illustrated by a case of subacute septicopyemia. Mellon, R. R., 1927, **13**, 99
— — sexual cycle of *B. coli* in relation to the origin of variants with special reference to Neisser and Massini's *B. coli-mutabile*. Mellon, R. R., 1925, **10**, 579
Herpes, recurrent generalized, of infectious origin. Cohen, F., 1916, **1**, 580, ab.
Herpetic manifestations, symptomatic, following artificially induced fevers. Boak, R. A., Carpenter, C. M., and Warren, S. L., 1934, **27**, 83, ab.
Heterogeneity within pure lines of bacteria, origin of. Mellon, R. R., 1926, **11**, 203
Heterologous antigen, studies on immunization with. Kulp, W. L., and Borden, A. G., 1935, **30**, 212, ab.
Heterophile immunization, oral. Rockwell, G. E., and VanKirk, H. C., 1935, **29**, 47, ab.
Heterotrophic microörganisms in the solution and precipitation of iron. Starkey, R. L., and Halvorson, H. O., 1927, **13**, 65, ab.
Hexamethylenetetramine, bactericidal properties of the quarternary salts of. Jacobs, W. A., 1916, **1**, 460, ab.
Hexosidases, evidence on specificity of. A comparison of the activity of *Escherichia coli* and *Escherichia communior*. Hotchkiss, M., 1935, **29**, 391
Hexylresorcinol, action of on bacteria in certain food products. Poe, C. F., and Fehlmann, H. A., 1933, **25**, 521

Hexylresorcinol relation between surface tension and action of disinfectants, with special reference to. Frobisher, M., Jr., 1927, **13**, 163
Hides, salted, bacteriological studies of the red discoloration of. Lochhead, A. G., 1934, **27**, 61, ab.
— — morphology of bacteria causing reddening of. Stuart, L. S., 1935, **29**, 88, ab.
Hiss-Russell bacillus, epidemic of bacillary dysentery due to. Delaney, M. A., 1916, **1**, 588, ab.
— — infection in an epidemic of dysentery. Van Poole, G. M., 1916, **1**, 588, ab.
histoliticum, see Clostridium
Hodgkins disease, immunologic studies on. Moore, J. J., 1916, **1**, 689, ab.
Hog-cholera bacillus, non-gas-producing strain from an old laboratory culture. Tenbroeck, C., 1916, **1**, 682, ab.
— sera, antigenic value of *Spirochaeta hyos*, in complement fixation tests on. King, W. E., and Drake, R. H., 1916, **1**, 114, ab.
— serum, anti-, clear and sterilized, production of. Dorset, M., and Henry, R. R., 1916, **1**, 576, ab.
— — — production of, virulent salt solution in the. Graham, R., and Himmelberger, L. R., 1916, **1**, 358, ab.
— — preservation of, relative value of trikresol and carbolic acid in. Reichel, J., 1916, **1**, 359, ab.
Homeopathic prescribing, bacteriology in conjunction with. Irving, W. W., 1916, **1**, 583, ab.
hominis, see Blastocystis
Honey, clarified, in culture media. Hall, H. H., and Lothrop, R. E., 1934, **27**, 349
Horse, normal, bacterial flora of the mouth and nose of. Boyer, E. E. H., 1919, **4**, 61
— periodic ophthalmia in, properties of a toxin produced by an organism isolated in. Rosenow, E. C., 1928, **15**, 38, ab.
Horses, encephalomyelitis, virus of. Howitt, B. F., 1935, **29**, 61, ab.
— — — — cultivation on chorioallontoic membrane of chick. Higbie, E., and Howitt, B., 1935, **29**, 399
— used for the production of diphtheria antitoxin, effect of alum on. Leonard, G. F., and Varley, J. R., 1932, **23**, 109, ab.
Human body, lethal radiation from. Rahn, O., and Barnes, M. N., 1933, **25**, 28, ab.
— tissues, technique of cultivating in vitro. Lambert, R. A., 1916, **1**, 464, ab.
Humus as a source of energy for soil microörganisms, and the energy liberated by their activity. Van Suchtelen, F. H., 1931, **21**, 33, ab.
— -forming materials of narrow and wide nitrogen-carbon ratio, some common, influence on bacterial activities. Brown, P. E., and Allison, F. E., 1916, **1**, 559, ab.
Hydrochloric acid as a decolorizing agent for the tubercle bacillus. Keilty, R. A., 1916, **1**, 576, ab.
Hydrogen-ion concentration, color standards for the colorimetric measurement of. Gillespie, L. J., 1921, **6**, 399
— — colorimetric determination of and its applications in bacteriology. Clark, W. M., and Lubs, H. A., I, 1917, **2**, 1; II, 109; III, 191
— — definite, precipitation of typhoid bacillus by. Kemper, C. F., 1916, **1**, 459, ab.
— — effect of on the production of precipitates in a solution of peptone and its relation to the nutritive value of media. Kligler, I. J., 1917, **2**, 351
— — — on the toxicity of sodium benzoate to microörganisms. Cruess, W. V., and Richert, P. H., 1929, **17**, 363

Hydrogen-ion concentration, effect on viability of *Bact. coli* and *Bact. typhosum* in water. Cohen, B., 1922, **7**, 183
— — further observations on "color standards" for the colorimetric determination of. Medalia, L. S., 1922, **7**, 589
— — growth of *B. coli* in relation to. Sherman, J. M., and Holm, G. E., 1922, **7**, 465
— — influence on the sporulation of *B. welchii*. Torrey, J. C., Kahn, M. C., and Salinger, M. H., 1930, **20**, 85
— — — — viscosity of bacterial suspensions. Falk, I. S., and Harrison, R. W., 1926, **11**, 85, ab.
— — — — — — — — Falk, I. S., and Harrison, R. W., 1926, **12**, 97
— — — upon structure of *H. influenzae*. Reed, G., and Orr, J. H., 1923, **8**, 103
— — of broth media, variations in. Foster, L. F., and Randall, S. B., 1921, **6**, 143
— — — cultures, direct method for the determination of. Weiss, E., 1931, **21**, 22, ab.
— — — egg white and growth of organisms. Stark, C. N., and Sharp, P. F., 1927, **13**, 59, ab.
— — — — — relation of to germicidal action. Sharp, P. F., and Whitaker, R., 1927, **14**, 17
— — — medium, influence of on the reproduction of alfalfa bacteria. Fred, E. B., and Loomis, N. E., 1917, **2**, 629
— — on a colorimetric method of adjusting bacteriological culture media to any optimum. Hurwitz, S. H., Meyer, K. F., and Ostenberg, Z., 1916, **1**, 129, ab.
— — pH 1.2 to pH 9.8, "color standards" for colorimetric measurement of Medalia, L. S., 1920, **5**, 441
— — relation to growth, viability, and fermentative activity of *Streptococcus hemolyticus*. Foster, L. F., 1921, **6**, 161
— — solid culture media with a wide range of. Wolf, F. A., and Shunk, I. V., 1921, **6**, 325
— — in cultures of streptococci. Ayers, S. H., 1916, **1**, 84, ab.
— — limiting, of streptococci, variation in. Brody, L., and Arnold, L., 1923, **8**, 307
— — media of different, growth of certain bacteria in. Cohen, B., and Clark, W. M., 1919, **4**, 409
— — motility of bacteria as effected by. Reed, G., and MacLeod, D. J., 1924, **9**, 119
— — of culture media and standard buffer solutions, use of some mixed materials for regulating. Meacham, M. R., Hopfield, J. H., and Acree, S. F., 1920, **5**, 491
— determination of solid bacterial media, comparison of colorimetric and potentiometric methods, using a dilution method based on the buffer equation. Lisse, M. W., Jensen, O. G., and Tittsler, R. P., 1931, **21**, 383
— measurements, colorimetric, dilution in, isohydric indicator methods for accurate determination of pH in very dilute solutions. Fawcett, E. H., and Acree, S. F., 1929, **17**, 163
— *see* also pH
— titration, and the buffer index of bacteriological media. Brown, J. H., 1921, **6**, 555
— peroxide, influence of certain inorganic salts on the germicidal activity of. Dittmar, H. R., Baldwin, I. L., and Miller, S. B., 1930, **19**, 203
— — potato utilization as indicated by. Güll, J., and Broadhurst, J., 1927, **13**, 4, ab.
— sulfide determination in bacterial cultures and in certain canned foods. Fellers, C. R., Shostrom,

O. E., and Clark, E. D., 1924, **9**, 235
Hydrogen-ion sulfide produced by bacteria, comparison of lead, bismuth, and iron as detectors of. ZoBell, C. E., and Feltham, C. B., 1934, **28**, 169
— — production by anaerobic spore-bearing bacteria. Kahn, M. C., 1925, **10**, 439
— — — — — bacteria. Myers, J. T., 1920, **5**, 231
— — — — — — relation between chemical composition of peptones and. Tilley, F. W., 1923, **8**, 287
— — — — — — variations in. Tilley, F. W., 1923, **8**, 115
— — — — — *Salmonella pullorum*, effect of temperature upon. Tittsler, R. P., 1931, **21**, 111
hydrophilus, see Proteus
Hydroxylamine, production of by the reduction of nitrates and nitrites by various pure cultures of bacteria. Lindsey, G. A., and Rhines, C. M., 1932, **24**, 489
Hydroxyl-ion concentration, influence on the thermal death rate of *Bacterium coli*. Myers, R. P., 1928, **15**, 341
— — — — solid culture media with a wide range of. Wolf, F. A., and Shunk, I. V., 1921, **6**, 325
hyos, see Spirochaeta
Hyperleucocytosis following the injection of typhoid bacilli into immunized rabbits. McWilliams, H. I., 1916, **1**, 569, ab.
Hyphomycetes, preparation of for microscopical examination. Boyd, M. F., 1917, **2**, 365
Hypochlorite solutions, germicidal efficiency in the presence of chicken manure. McCulloch, E. C., 1934, **27**, 37, ab.

I

Ice cream, *Escherichia coli* in. Anzulovic, J. V., 1932, **23**, 56, ab.
— — held at freezing temperatures, bacterial count of. Weinzirl, J., and Gerdeman, A. E., 1929, **17**, 38
— — mix, effect of gelatin on bacterial content of. Fay, A. C., and Olson, N. E., 1927, **14**, 363
— — thermotolerant saccharophilic organisms as cause of "pin-point" colonies in bacteriological analysis of. Fay, A. C., 1926, **11**, 96, ab.
— — viability of *Bacterium typhosum* in. Prucha, M. J., and Brannon, J. M., 1926, **11**, 27
— sampler, new. Greenfield, M., 1916, **1**, 623
icterohaemorrhagiae, see Spirochaeta and *Leptospira*
Immune reactions, development in serum disease. Longcope, W. T., and Rackemann, F. M., 1916, **1**, 461, ab.
— serum, homologous, in microbic dissociation. Hadley, P., 1927, **13**, 40, ab.
Immunity, antiblastic. Dochez, A. R., and Avery, O. T., 1916, **1**, 254, ab.
— chemistry of, a new approach. Stearn, A. E., 1934, **27**, 88, ab.
— factors in pneumococcus infection in the dog. Bull, C. G., 1916, **1**, 575, ab.
— natural and acquired. Porter, W. H., 1916, **1**, 568, ab.
— plant, relation between legume root nodule bacteria and the host plant with reference to. Dunham, D. H., and Baldwin, I. L., 1928, **15**, 21, ab.
Immunization in relation to bacterial allergy. Dienes, L., 1935, **29**, 28, ab.
— oral, heterophile. Rockwell, G. E., and VanKirk, H. C., 1935, **29**, 47, ab.
— skin response as a measure of. Kahn, R. L., 1933, **25**, 81, ab.
— universal. Baruch, H. B., 1916, **1**, 683, ab.
— with sensitized bacteria. Swift, H.

F., and Kinsella, R. A., 1916, **1**, 462, ab.
Immunized animal, fate of antigen injected into. Kahn, R. L., McDermott, E. B., and Sattler, S. D., 1935, **29**, 50, ab.
Immunologic specificity of streptococci isolated from various diseases of man. Rosenow, E. C., 1928, **15**, 38, ab.
Immunological relations. A study of the diphtheroid group of organisms with special reference to its relations to the streptococci. Part III. Mellon, R. R., 1917, **2**, 447
Inagglutinability with freshly isolated typhoid cultures, biologic origin of. Mellon, R. R., 1926, **11**, 84, ab.
Incubation of survival test culture, effect of varying periods of on tests of bacterial survival. Isaacs, M. L., 1930, **20**, 161
Incubator, bacteriological, for uniform temperatures with accurate control. Jennison, M. W., 1931, **21**, 24, ab.
— room, self-ventilating constant temperature. Felton, L. D., 1924, **9**, 169
Incubators, bacterial, variation of temperatures within. Ward, A. R., and Harding, H. A., 1926, **11**, 91, ab.
— bacteriological, temperature uniformity in. Yale, M. W., Pederson, C. S., and Breed, R. S., 1933, **25**, 66, ab.
Indians, American, blood groups among. Nigg, C., 1926, **11**, 105, ab.
indica, see Serratia
Individual cells, a method for the plating out of. Rous, P., and Jones, F. S., 1916, **1**, 256, ab.
Indol, bacteriostatic effect of. Sandholzer, L. A., and Tittsler, R. P., 1934, **27**, 28, ab.
— determination in bacterial cultures. Fellers, C. R., and Clough, R. W., 1925. **10**, 105
— in cheese. Nelson, V. E., 1916, **1**, 361, ab.
— oxalic acid test for. Koser, S. A., and Galt, R. H., 1926, **11**, 293
— production by *B. coli* and *B. typhosus*. Zunz, E., and György, P., 1916, **1**, 627
— — — bacteria. Norton, J. F., and Sawyer, M. V., 1921, **6**, 471
— — — — in culture and in feces suspension, effect of yeast on. Pierce, H. B., 1931, **21**, 225
— studies. Kulp, W. L., 1925, **10**, 459
— test, a rapid and simple. Cannon, P. R., 1916, **1**, 535
— — for based on the oxalic acid reaction of gnezda. Holman, W. L., and Gonzales, F. L., 1923, **8**, 577
— — in tryptophane solution. Barthel, C., 1921, **6**, 85
Induction effect in mitogenetic radiation, significance of. Rahn, O., and Tuthill, J. B., 1933, **25**, 27, ab.
Infants, newborn, isolation of an obligately anaerobic bacillus from the feces of, and its probable identity with the "Köpfchenbakterien" of Escherich, Rodella's "Bacillus III," and *Bacillus paraputrificus* (Bienstock). Hall, I. C., and Snyder, M. L., 1934, **28**, 181
Infection, acute, vaccines in. Bonime, E., 1916, **1**, 684, ab.
— bacterial, resistance to, genetic studies in. Roberts, E., and Card, L. E., 1927, **13**, 31, ab.
— thread in leguminous root nodules, nature of. McCoy, E., 1932, **23**, 46, ab.
Infections, experimental bacterial, chemotherapy of. Jacobs, W. A., 1916, **1**, 460, ab.
— streptococcus, rôle of the bacteriophage in. Dutton, L. O., 1926, **11**, 89, ab.
Infectious diseases, certain acute, specific therapy in. Dever, F. J., 1916, **1**, 570, ab.

Infectious diseases, resumé on. Beifeld, A. H., 1916, **1**, 697, ab.
Influenza. Doty, A. H., 1916, **1**, 257
— and grippe in infants and children. Leo-Wolf, C. G., 1916, **1**, 259, ab.
— bacillus, peroxidase in relation to the growth of. Anderson, L. R., 1930, **20**, 371
— chronic, in pulmonary tuberculosis. Hamblet, M. L., and Barnes, H. L., 1916, **1**, 699, ab.
— observations on dissociation and the epidemic problems from the study of. Falk, I. S., 1932, **23**, 25, ab.
— pseudo-, notes on an epidemic. Williams, W. W., and Burdick, W., 1916, **1**, 583, ab.
— swine, a change in the contagious character of a strain. Shope, R. E., 1934, **27**, 82, ab.
influenzae, see Bacterium
Inhalants and similar preparations, retention test for. Broadhurst, J., and Lehr, B. E., 1930, **19**, 38
Inhibition, bacterial, and the quantity of inoculation. Slemmons, W. S., 1926, **11**, 88, ab.
— — germicidal action in milk. Chambers, W. H., 1920, **5**, 527
— — paramecia as a test of. Broadhurst, J., and Oram, J., 1932, **23**, 48, ab.
— of bacterial growth by a mold or its metabolic products. Reid, R. D., 1934, **27**, 28, ab.
— — — — — broth culture filtrates. Barnes, L. A., 1931, **21**, 10, ab; 395
— — — — produced by mold. Reid, R. D., 1935, **29**, 215
Inoculation, quantity of, observations on bacterial inhibition and. Slemmons, W. S., 1926, **11**, 88, ab.
— root, with the virus of tobacco mosaic. Mulvania, M., 1930, **19**, 23, ab.
— yield and nitrogen content of soy beans as affected by. Lipman, J. G., and Blair, A. W., 1916, **1**, 677, ab.
Inoculum, apparatus for increasing amount of without diluting the medium. Rayburn, C. H., Werkman, C. H., and Hixon, R. M., 1930, **19**, 7, ab.
— device to facilitate and accelerate the uniform distribution of over the surface of poured plates. Thompson, R., 1933, **26**, 539
Inorganic substances necessary for bacterial fluorescence. Georgia, F. R., and Poe, C. F., 1931, **22**, 349
Insects, as carriers of *Cl. botulinum*, Gunderson, M. F., 1935, **30**, 333, ab.
— rôle in the dissemination of fire blight bacteria. Stewart, V. B., and Leonard, M. D., 1916, **1**, 384, ab.
Inspection, dairy, bacterial testing versus. North, C. E., 1916, **1**, 566, ab.
Interchangeability, non-reciprocal of the Wood's clover and garden bean nodule bacteria. Sears, O. H., and Clark, F. M., 1929, **17**, 20, ab.
International committees on Bacteriological Nomenclature, problems before. Breed, R. S., 1935, **30**, 329, ab.
Intestinal bacteria, skin reactions following intradermal injections of vaccines prepared from. Preliminary report. Famulener, L. W., and Davis, J. S., 1930, **19**, 29, ab.
— — surface properties before and after serum sensitization. Joffe, E. W., Hitchcock, C. H., and Mudd, S., 1933, **25**, 24, ab.
— bactericidal function, influence of environmental changes upon. Arnold, L., 1928, **15**, 46, ab.
— content and feces, *Blastocystis hominis*: its characteristics and its prevalence in South Carolina. Lynch, K. M., 1917, **2**, 369
— contents, obtaining uncontaminated samples of from various levels with a duodenal tube. Freeman,

R. G., Jr., and Miller, E. G., Jr., 1924, **9**, 301
Intestinal flora, influence of a lactose-containing diet on the. Hull, T. G., and Rettger, L. F., 1916, **1**, 120, ab.
— — of rats, changes on a calcium deficient diet. Hoffstadt, R. E., and Johnson, S. J., 1926, **11**, 100, ab.
— — the influence of milk and carbohydrate feeding on the character of the. IV. Diet versus bacterial implantation. Hull, T. G., and Rettger, L., 1917, **2**, 47
— microbes, certain, effect of filtrates of upon bacterial growth. Upton, M. F., 1929, **17**, 315
— organisms, differentiation by means of semifluid sugar media. Bibb, L. B., 1927, **13**, 123
— pathogens, new medium for the isolation of. Leifson, E., 1934, **27**, 32, ab.
— tract of children, aerobic spore-bearing bacteria in. Batchelor, M. D., 1919, **4**, 23
Intestines of birds, Coccidia in sub-epithelial infections of. Hadley, P. B., 1917, **2**, 73
Intradermal reaction to agar. Stokes, J. H., 1916, **1**, 691, ab.
— reactions to emulsions of normal and pathologic skin. Stokes, J. H., 1916, **1**, 691, ab.
— sensitization, studies on. I. Stokes, J. H., 1916, **1**, 691, ab.
Intravenous injection of guinea-pigs. Roth, G. B., 1921, **6**, 249
Invertase activity of bacteria. Koch, G. P., 1916, **1**, 556, ab.
Iodine, influence on growth and metabolism of yeasts. Greaves, J. E., Zobell, C. E., and Greaves, J. D., 1928, **16**, 409
Iodized phenol, treatment of diphtheria carriers with. Ott, W. O., and Roy, K. A., 1916, **1**, 263, ab.
Iritis, etiology of. Irons, E. E., and Brown, E. V. L., 1916, **1**, 580, ab.
Iron, action of in synthetic media for tubercle bacilli. Reed, G. B., and Rice, C. E., 1928, **16**, 97
— as a detector of hydrogen sulphide produced by bacteria, comparison with lead and bismuth. Zobell, C. E., and Feltham, C. B., 1934, **28**, 169
— "black beets," a problem involving stimulation of bacterial growth by. Cameron, E. J., 1934, **27**, 60, ab.
— importance of some heterotrophic microörganisms in solution and precipitation of. Starkey, R. L., and Halvorson, H. O., 1927, **13**, 65, ab.
— influence of on the pigmentation of acid-fast bacteria. Reed, G. B., and Rice, C. E., 1929, **17**, 407
— reduced, in the cultivation of anaerobic bacteria. Hastings, E. G., and McCoy, E., 1932, **23**, 54, ab.
— — use for the cultivation of anaerobes. Scott, J. P., and Brandly, C. A., 1933, **26**, 1
Iso-hemolysins. Downs, C. M., Koerber, K., and Jones, H. P., 1928, **15**, 41, ab.
Isomers of lactic acid, bacterial production and identification. Allgeiger, R. J., and Peterson, W. H., 1930, **19**, 18, ab.

J

Janus green B, reduction in milk. Thornton, H. R., and Hastings, E. G., 1929, **18**, 319
— — — — of in milk. Thornton, H. R., 1929, **17**, 34, ab.
japonicum, see Rhizobium

K

Kahn reaction, colloid chemical aspects of. Kahn, R. L., 1928, **15**, 49, ab.
— — in leprosy. Soule, M. H., 1935, **29**, 48, ab.

Kahn reaction, principles of antigen correction for. Kahn, R. L., McDermott, E., and Lubin, G., 1928, **15**, 49, ab.
— — relation appearance of precipitate and potency of serum in. Kahn, R. L., McDermott, E., and Nagle, N., 1927, **13**, 37, ab.
— — with spinal fluids. Kahn, R. L., McDermott, E., and Lubin, G., 1929, **17**, 50, ab.
— test, auxiliary antigen for. Kahn, R. L., Lubin, G., and McDermott, E., 1929, **17**, 49, ab.
— — standardization of antigen for. Kahn, R. L., and Nagle, N., 1927, **13**, 36, ab.
Kaolin, use of, to remove diphtheria bacilli from the nose and throat. Rappaport, B., 1916, **1**, 382, ab.
Kendall's medium, experiments with. Carpenter, H. M., and Long, P. H., 1933, **25**, 241
Ketones, chemical constitution and germicidal activity of. Tilley, F. W., and Schaffer, J. M., 1923, **16**, 279
Klebsiella, see Bacterium
Koch's postulates in syphilis, remarks on. Ecker, E. E., 1933, **25**, 92, ab.
— treatment of tuberculosis, Bonime's modification. Newton, R. C., 1916, **1**, 689, ab.
Kolle flask, modification of. Churchman, J. W., 1931, **22**, 29
"Köpfchenbakterien" of Escherich, probable identity with an obligately anaerobic bacillus from the feces of newborn infants and other human sources. Hall, I. C., and Snyder, M. L., 1934, **28**, 181
Krumwiede, Charles. 1879–1930. Park, W. H., 1931, **21**, 141
Kuhn, bacterial variants of, relation of to the chief phases of microbic dissociation. Hadley, P., 1933, **25**, 572

L

Laboratories, public health. Perkins, R. G., 1916, **1**, 578, ab.
Laboratory and field experiments in soil biology, comparison of. Koch, G. P., 1916, **1**, 675, ab.
— suggestions, two. Lake, G. B., 1916, **1**, 256, ab.
Lactate-fermenting bacteria of Swiss cheese, *Bacterium acidipropionici* s and other. Frazier, W. C., and Wing, H. U., 1932, **23**, 60, ab.
Lactic acid bacteria, biology of. Gorini, C., 1922, **7**, 271
— — — certain, proteolytic action of. Peterson, W. H., Pruess, L. M., and Fred, E. B., 1928, **15**, 165
— — — effect on the acetone-butyl alcohol fermentation. Fred, E. B., Peterson, W. H., and Mulvania, M., 1926, **11**, 323
— — — granulated, from cereals, biochemistry of. Fred, E. B., Peterson, W. H., and Stiles, H. R., 1925, **10**, 63
— — — heterofermentative, dissimilation of glucose by. Nelson, M. E., and Werkman, C. H., 1935, **30**, 547
— — — minimum temperatures for growth and fermentation of. Foter, M. J., 1935, **30**, 211, ab.
Lactic acid, biochemistry of the production of. Speakman, H. B., and Phillips, J. F., 1924, **9**, 183
— — in preservation of mayonnaise dressing and other products. Izzard, M. S., 1927, **13**, 57
— — isomers of, bacterial production and identification. Allgeier, R. J., and Peterson, W. H., 1930, **19**, 18, ab.
— — produced by certain bacteria, effect of associated growth on the forms of. Tatum, E. L., Fred, E. B., and Peterson, W. H., 1932, **23**, 73, ab.
— — production of some of the anaerobes. Hussong, R. V., and Hammer, B. W., 1930, **19**, 52, ab.

lactis, see Streptococcus
Lactobacilli, agglutination and dissociation studies with. Upton, M. F., and Kopeloff, N., 1932, **23,** 455
— effect of surface tension on growth of. Albus, W. R., 1928, **16,** 197
— in frozen pack peas. Berry, J. A., 1933, **25,** 75, ab.
— — milk, quantitative and qualitative distribution. Sherman, J. M., and Stark, C. N., 1927, **13,** 60, ab.
Lactobacillus, see also *Bacterium*
Lactobacillus acidophilus and dental aciduric organisms, comparative study. Rosebury, T., Linton, R. W., and Buchbinder, L., 1929, **18,** 395
— — — *Lactobacillus bulgaricus*, comparative study. Kulp, W. L., and Rettger, L. F., 1924, **9,** 357
— — constancy of essential characters. Rogers, L. A., 1934, **27,** 41, ab.
— — cultural characteristics of. Roos, C., 1927, **13,** 4, ab.
— — cultures, electrophoresis studies on. Weaver, R. H., 1931, **21,** 51, ab.
— — and *L. bulgaricus*. Electrophoresis studies of. Weaver, R. H., 1932, **24,** 73
— — differentiation from *L. bulgaricus*. Kulp, W. L., 1929, **17,** 355
— — dissociation and filtration studies with. Raney, M. E., and Kopeloff, N., 1934, **27,** 45, ab.
— — distinguishing characteristics of. Curran, H. R., Rogers, L. A., and Whittier, E. O., 1933, **25,** 595
— — effect of surface tension on growth of. Albus, W. R., and Holm, G. E., 1926, **12,** 13
— — — — — — — upon growth of. Albus, W. R., and Holm, G. E., 1926, **11,** 83, ab.
— — from the digestive tract of calves. Orcutt, M. L., 1926, **11,** 115
— — growth and acid production with automatic pH control. Longsworth, L. G., and MacInnes, D. A., 1935, **29,** 595
— — in epilepsy. Kopeloff, N., Lonergan, M. P., and Beerman, P., 1926, **11,** 101, ab.
— — incidence in adults. Kopeloff, N., Blackman, N., and McGinn, B., 1932, **23,** 109, ab.
— — influence on the colon-aerogenes group in the intestine. Kopeloff, N., and Beerman, P., 1926, **11,** 101, ab.
— — (Moro), new differential plating methods for *B. bifidus* (Tissier) and. Torrey, J. C., 1917, **2,** 435
— — serologic studies with. Upton, M. F., and Kopeloff, N., 1931, **21,** 51, ab.
— — surface tension studies with. Kopeloff, N., and Beerman, P., 1927, **13,** 7, ab.
— — vegetable peptone agar for quantitative work with. Bachmann, F. M., and Frost, W. D., 1932, **23,** 39, ab.
— *bifidus* (Tissier) and *B. acidophilus* (Moro), new differential plating methods for. Torrey, J. C., 1917, **2,** 435
— — Tissier and its biological position in the group of aciduric organisms. Weiss, J. E., and Rettger, L. F., 1934, **27,** 39, ab.
— — Weiss, J. E., and Rettger, L. F., 1934, **28,** 501
— *bulgaricus* and *Lactobacillus acidophilus*, comparative study. Kulp, W. L., and Rettger, L. F., 1924, **9,** 357
— — cultures, electrophoresis studies on. Weaver, R. H., 1931, **21,** 51, ab.
— — differentiation from *L. acidophilus*. Kulp, W. L., 1929, **17,** 355
— — effect of surface tension on growth of. Albus, W. R., and Holm, G. E., 1926, **12,** 13
— — — — — — — upon growth of. Albus, W. R., and Holm, G. E., 1926, **11,** 83, ab.

Lactobacillus bulgaricus inhibiting effect of *Streptococcus lactis* on. Rogers, L. A., 1928, **15**, 26, ab.; **16**, 321
— — in ensilage. Hunter, O. W., and Bushnell, L. D., 1916, **1**, 372, ab.
— — (Grigoroff), serological studies with. Upton, M. F., and Kopeloff, N., 1931, **21**, 51, ab.
— — surface tension studies with. Kopeloff, N., and Beerman, P., 1927, **13**, 7, ab.
— genus, biological and chemical studies with special reference to xylose fermentation by *L. pentoaceticus*. Weinstein, L., and Rettger, L. F., 1932, **24**, 1
— — comparative study of members with special emphasis on Lactobacilli of soil and grain. Hunt, G. A., and Rettger, L. F., 1930, **20**, 61
— *pentoaceticus*, gaseous metabolism of. Hunt, G. A., 1933, **26**, 341
— — — — — — with reference to several representative members of the Lactobacillus group. Hunt, G. A., 1933, **26**, 341
— — xylose fermentation by. Weinstein, L., and Rettger, L. F., 1932, **24**, 1
— *plantarum* (Orla-Jensen), Bergey, study of. Pederson, C. S., 1935, **29**, 73, ab.
Lactose bile and broth, value of presumptive tests for *B. coli* based on the routine use of. Ritter, N., 1919, **4**, 609
— — the value of for the *B. coli* presumptive test. Bunker, J. W. M., 1916, **1**, 85, ab.
— bouillon, bile compared for determining the presence of *B. coli* in water. Obst, M. M., 1916, **1**, 73
— broth, comparison of fermentation media with. Noble, R. E., and White, J. L., 1935, **29**, 23, ab.
— — the fallacy of refined readings of gas percentages in the fermentation of lactose peptone bile and. Browne, W. W., and Ackman, B., 1917, **2**, 249
— — value of presumptive tests for *B. coli* based on the routine use of. Ritter, N., 1919, **4**, 609
— -containing diet, influence of upon the intestinal flora. Hull, T. G., and Rettger, L. F., 1916, **1**, 120, ab.
— fermenting *B. coli*, atypical (slow). Jones, F. S., Orcutt, M., and Little, R. B., 1932, **23**, 267
— — bacteria, preliminary note on classification. Levine, M., 1916, **1**, 619
— litmus agar, the use of a three per cent plate for the demonstration of *B. coli* in water examination. Meyer, E. M., 1917, **2**, 237
— peptone bile and lactose broth, the fallacy of refined readings of gas percentages in the fermentation of. Browne, W. W., and Ackman, B., 1917, **2**, 249
— slow fermentation by bacteria pathogenic for chicks. Lewis, K. H., and Hitchner, E. R., 1935, **29**, 22, ab.
Lag, function of in bacterial cultures. Sherman, J. M., and Albus, W. R., 1924, **9**, 303
— period, a note regarding. Herrington, B. L., 1934, **28**, 177
— — and velocity of growth, salt effects in relation to. Sherman, J. M., Holm, G. E., and Albus, W. R., 1922, **7**, 583
— — mitogenetic radiation as the cause of the influence of the number of organisms upon. Rahn, O., and Ferguson, A. J., 1933, **25**, 28, ab.
Lake, fresh water, calcium-precipitating bacteria from the mud of. Williams, F. T., and McCoy, E., 1933, **25**, 57
Lambs, very young, the apparent cause of an infectious enteritis in. Heller, H. H., 1933, **25**, 91, ab.
Laryngotracheitis and coryza of chickens, ultra-filtration experiments

with virus of. Gibbs, C. S., 1935, **30,** 411

Laryngotracheitis of fowls, infectious, cloacal infection as a means of immunization against. Beaudette, F. R., 1934, **27,** 80, ab.

— virus, infectious, desiccation and preservation of. Gibbs, C. S., 1933, **25,** 245

Latex of *Hevea brasiliensis*, organism found in. Corbett, A. S., 1930, **19,** 321

— rubber, bacteriology of. Prescott, S. C., and Doelger, W. E. P., 1927, **13,** 67, ab.

Leaching, some effects of on soil flora. Lipman, C. B., and Fowler, L. W., 1916, **1,** 553, ab.

Lead acetate medium, Kligler modification of. Bailey, S. F., and Lacy, G. R., 1927, **13,** 183

— as a detector of hydrogen sulphide produced by bacteria, comparison with bismuth and iron. Zobell, C. E., and Feltham, C. B., 1934, **28,** 169

Leafspot, peanut, further studies on. Wolf, F. A., 1916, **1,** 133, ab.

Legume bacteria, taxonomy of. Buchanan, R. E., 1927, **13,** 50, ab.

— family, possible explanation for the specificity of cross-inoculation groups in. Baldwin, I. L., 1926, **11,** 93, ab.

— inoculants, commercial, *Bacillus radiobacter* in reference to. Leonard, L. T., 1931, **21,** 35, ab.

— nodule bacteria, accessory factor for. Sources and activity. Allison, F. E., and Hoover, S. R., 1934, **27,** 561

— — — fermentation characters of. Baldwin, I. L., and Fred, E. B., 1927, **13,** 49, ab.

— — — use of asparagus extract in media for the cultivation of. Carroll, W. R., 1929, **17,** 21, ab.

— — — relation between the host plant and with reference to plant immunity. Dunham, D. H., and Baldwin, I. L., 1928, **15,** 21, ab.

Leguminosae, nodule bacteria of, notes on flagellation of. Shunk, I. V., 1921, **6,** 239

— root nodule bacteria of, gum produced by. Hopkins, E. W., Peterson, W. H., and Fred, E. B., 1929, **17,** 22, ab.

legumenosum, see Rhizobium

Leguminous plants, certain, effect of pCO_2 on nitrogen fixation process of. Wilson, P. W., and Fred, E. B., 1933, **25,** 54, ab.

— — fixation of nitrogen by germinating seeds of. Orcutt, F. S., Shannon, A. M., and Wilson, P. W., 1934, **27,** 55, ab.

lentoputrescens, see Clostridium

leprae, see Mycobacterium

Leprosy, recent developments in the treatment of. Heiser, V. G., 1916, **1,** 252, ab.

— the agglutination reaction with sera derived from human cases and from the experimental animal upon various members of the acid-fast group. Harris, W. H., and Lanford, J. A., 1916, **1,** 569, ab.

— treatment with cyanocuprol. Takano, R., 1916, **1,** 700, ab.

Leptospira, physical and biological characteristics of. Kligler, I. J., and Ashner, M., 1928, **15,** 79

Leptospirae, studies on. I. Distribution and cultivation. Damon, S. R., Hampil, B., 1929, **18,** 343

Leptothrix associated with chronic hemorrhagic nephritis. Dick, G. R., Dick, G. F., and Rappaport, B., 1916, **1,** 464, ab.

Lethal environmental factors within the natural range of growth. Sherman, J. M., and Cameron, G. M., 1934, **27,** 341

Leucocyte content of milk drawn from *Brucella abortus* infected udders. Prouty, C. C., 1934, **27,** 293

Leucocytes, effect of bacterial by-products on. Evans, A. C., 1931, **21**, 42, ab.

Leuconostoc and *Streptococcus*, certain types, agglutination as a means of differentiating. Hucker, G. J., 1932, **23**, 83, ab.

— genus. Hucker, G. J., and Pederson, C. S., 1931, **21**, 3, ab.

Leukosis of chickens, filterable virus of. Furth, J., 1934, **27**, 79, ab.

— transmissible, age, breed, and species susceptibility in. Stubbs, E. L., 1934, **27**, 79, ab.

Liberal arts, college of, teaching bacteriology in. Genung, E. F., 1927, **13**, 69, ab.

Life cycles, acid-fast bacteria. Kahn, M. C., 1932, **23**, 20, ab.

— — in bacteria. Evans, A. C., 1929, **17**, 63

— — of the bacteria. Löhnis, F., and Smith, N. R., 1916, **1**, 704, ab.

Light and drying, effects on diphtheria, streptococci, and staphylococci. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703

— effects on diphtheria bacilli. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.

— monochromatic, irradiation of plant viruses and of microörganisms with. Resistance to ultraviolet radiation of a plant virus as contrasted with vegetative and spore stages of certain bacteria. Duggar, B. M., and Hollaender, A., 1934, **27**, 241

— — — — — — — — — — — The virus of typical tobacco mosaic and *Serratia marcescens* as influenced by ultraviolet and visible light. Duggar, B. M., and Hollaender, A., 1934, **27**, 219

— *see* also Ultraviolet

Lipase, microbial, detection of by copper soap formation. Berry, J. A., 1933, **25**, 433

Lipoids and proteins, serum, relation to non-specific complement fixation with normal rabbit and dog sera. Kolmer, J. A., 1916, **1**, 371, ab.

Lipolysis, types of brought about by bacteria, as shown by Nile-blue sulphate. Collins, M. A., and Hammer, B. W., 1934, **27**, 487

Lipolytic activities of several bacteria causing bitter cream. McGrath, J. T., and Anderson, J. A., 1934, **27**, 68, ab.

— bacterium, deterioration of cream by. Anderson, J. A., and Hardenbergh, J. G., 1932, **23**, 59, ab.

— enzymes of *Aspergillus flavusoryzae* group. Stuart, L. S., 1935, **29**, 88, ab.

— — — three specific organisms, study of. Spitzer, G., and Parfitt, E. H., 1935, **29**, 69, ab.

— microörganisms, agar plate method for the detection and enumeration of. Anderson, J. A., 1934, **27**, 69

Listerella, characteristics of a new species of the genus, obtained from human sources. Burn, C. G., 1935, **30**, 573

Literature, mature scientific, evolution toward. Clark, W. M., 1934, **27**, 1

Litmus milk, note on the reaction of the paratyphoids, alpha and beta, in. Hadley, P. B., 1917, **2**, 263

— — powdered. Hamilton, H. W., 1921, **6**, 43

Loeffler's blood serum media, coagulation and sterilization of under steam pressure. Hinkleman, A. J., 1923, **8**, 315

— coagulated blood serum, comparison with blood serum with the addition of sterile ox gall. Odell, H. R., 1918, **3**, 189

— flagella stain, modification of. Shunk, I. V., 1920, **5**, 181

— medium coagulation and sterilization of in the autoclave. Dupray, M., 1924, **9**, 179

Loops, inoculating, an electric furnace for sterilizing. Corper, H. J., 1916, **1**, 256, ab.

Los Angeles aqueduct, sanitary features of. Heinley, B. A., 1916, **1**, 250, ab.

Louping ill in man. Rivers, T. M., and Schwentker, F. F., 1934, **27**, 85

Löwenstein's and Bordet-Gengou medium, used as a substitute for guinea-pig inoculation in detecting tubercle bacilli in sputums. Mishulow, L., Romano, M., Melman, M., and Kereszturi, C., 1934, **27**, 103, ab.

Loewenstein's method of culturing *B. tuberculosis*. Kopeloff, L. M., Kopeloff, N., Hinsie, L. E., and Etchells, J. L., 1935, **29**, 33, ab.

Luminous bacteria, destruction of by high frequency sound waves. Harvey, E. N., and Loomis, A. L., 1929, **17**, 373

— — observations on. Hill, S. E., and Shoup, C. S., 1929, **18**, 95

Lupinus, root-nodule organism of. Eckhardt, M. McL., Baldwin, I. L., and Fred, E. B., 1931, **21**, 273

Lye solutions, relation of temperature to germicidal efficiency of. McCulloch, E. C., 1932, **23**, 50, ab.

Lymph glands, abnormal, bacteria associated with. Torrey, J. C., 1916, **1**, 380, ab.

— — infection with *Bacillus paratyphosus* B. Cole, C. S., 1916, **1**, 581, ab.

Lymphadenitis, caseous and ulcerative lymphangitis. Diphtheroid bacillus of Preisz-Nocard. Hall, I. C., and Stone, R. V., 1916, **1**, 553, ab.

— epizootic, in the guinea-pig. Megrail, E., and Hoyt, R. N., 1929, **17**, 54, ab.

Lymphangitis, ulcerative, and caseous lymphadenitis. Diphtheroid bacillus of Preisz-Nocard. Hall, I. C., and Stone, R. V., 1916, **1**, 553

Lymphatics in ascending renal infection. Eisendrath, D. N., and Kahn, J. V., 1916, **1**, 258, ab.

Lysozyme content of milk from various species and its relation to the fecal flora of their nurslings. Prickett, P. S., Miller, N. J., and McDonald, F. G., 1933, **25**, 61, ab.

Lytic agent, specific, which behaves like bacteriophage, artificial production of. LeMar, J. D., and Myers, J. T., 1934, **27**, 49, ab.

— — and bacteriophages, comparison of action of on pyocyaneus cultures. Rabinowitz, G., 1934, **28**, 237

— — bacteriophage and other, relation to negative stool cultures. Study of two cases. Rabinowitz, G., 1934, **28**, 221

— areas produced by the bacteriophage, method of staining. Hadley, P., 1924, **9**, 405

— — variation of in size and its significance. Hadley, P., 1924, **9**, 397

M

McLeod's anaerobic plate, modification of. Tetrault, P. A., and McCoy, E., 1929, **17**, 14, ab.

Maggots, surgical, bactericidal principle in excretions of, which destroys important etiological agents of pyogenic infections. Simmons, S. W., 1935, **30**, 253

Magnesium ammonium phosphate crystals, precipitation of during the growth of bacteria in media containing nitrogenous substances. Scudder, S. A., 1928, **16**, 157

Malaria, inoculation: sexual and asexual strains. Kopeloff, N., 1930, **19**, 25, ab.

— tertian, *Anopheles punctipennis*, a host of. King, W. V., 1916, **1**, 583, ab.

Maltose, fermentation of by *Bact. pullorum*. Edwards, P. R., 1928, **15**, 235

malvaceara, see Phytomonas

malvacearum, see Pseudomonas
Mammalian tissues in vitro, limitations to the cultivation of. Lambert, R. A., 1916, **1**, 694, ab.
Mammococcus, filtrable migrant forms. Gorini, C., 1932, **23**, 27, ab.
Manganese salts, effect of some on ammonification and nitrification. Brown, P. E., and Minges, G. H., 1916, **1**, 677, ab.
Mannitol-producing organisms in silage. Plaisance, G. P., and Hammer, B. W., 1921, **6**, 431
Manure, barnyard, and water, effect on bacterial activities of the soil. Greaves, J. E., and Carter, E. G., 1916, **1**, 676, ab.
— chicken, germicidal efficiency of hypochlorite solutions in the presence of. McCulloch, E. C., 1934, **27**, 37, ab.
— nitrogen-assimilating organisms in. Fulmer, H. L., and Fred, E. B., 1917, **2**, 423
Manures, description of *B. pasteuri* strains from. Gibson, T., 1934, **28**, 295
— green, relation of to the failure of certain seedlings. Fred, E. B., 1916, **1**, 361, ab.
Maple products, spoilage by molds. Fellers, C. R., 1933, **25**, 67, ab.
marcescens, see Serratia
Mares, metritis in, relation of encapsulated bacilli found in to encapsulated bacilli of human origin. Edwards, P. R., 1928, **15**, 245
Marine bacteria, relationships to the decomposition of fish. Sanborn, J. R., 1930, **19**, 375
— — significance of, in the fouling of submerged surfaces. Zobell, C. E., and Allen, E. C., 1935, **29**, 239
— nitrifiers, oxidation-reduction potentials and activity of. Zobell, C. E., 1935, **29**, 78, ab.
Marshall, Charles Edward. 1866–1927. Giltner, W., 1927, **13**, 379
Mastitis, chronic, bacteriology of. Hucker, G. J., and Hansen, P. A., 1934, **27**, 73, ab.
— — bovine, organisms associated with. Plastridge, W. N., Spaulding, E. R., and Brigham, G. D., 1934, **27**, 74, ab.
Mastoiditis, a case complicated by purulent cerebrospinal meningitis. Huntington, W. H., 1916, **1**, 694, ab.
Mayonnaise, value of lactic acid in preservation of. Iszard, M. S., 1927, **13**, 57, ab.
Meat extract in culture media, yeast as a substitute for. Johanson, E., and Broadhurst, J., 1926, **11**, 87, ab.
— products, canned, microbiology of. Ruyle, E. H., and Tanner, F. W., 1934, **27**, 64, ab.
Meats, market, bacteriological content of. Brewer, C. M., 1925, **10**, 543
Meconium, supposedly sterile, bacteria in. Burrage, S., 1927, **13**, 47, ab.
Media, acidity of. Noyes, H. A., 1916, **1**, 87, ab.
— agar, oxidation-reduction character of and the growth of aerobic bacteria. Brown, L. W., and Baldwin, I. L., 1933, **25**, 29, ab.
— bacteriological, mechanical behavior of dyes in. Stearn, E. W., and Stearn, A. E., 1923, **8**, 567
— — study of methods for the estimation of sugar in. Magee, M. C., and Smith, H. G., 1930, **19**, 125
— broth, variations in hydrogen-ion concentration of. Foster, L. F., and Randall, S. B., 1921, **6**, 143
— carbohydrate-free and glucose-containing, influence of phosphate buffer in. Slanetz, C. A., and Rettger, L. F., 1928, **15**, 297
— certain, physiological studies of accessory and stimulating factors in. Sanborn, J. R., 1926, **12**, 1
— — presumptive test, comparative study. Horwood, M. P., and Heifetz, A., 1934, **27**, 57, ab.

Media, differential, potassium tellurite in. Gilbert, R., and Humphreys, E. M., 1926, **11**, 141
— effect of hydrogen ion concentration on the production of precipitates in a solution of peptone and its relation to the nutritive value of. Kligler, I. J., 1917, **2**, 351
— — — sterilization of upon their growth promoting properties toward bacteria. Fulmer, E. I., Williams, A. L., and Werkman, C. H., 1931, **21**, 299
— for soil bacteria. Noyes, H. A., 1916, **1**, 93, ab.
— glucose-containing, influence of phosphate buffer in. Slanetz, C. A., and Rettger, L. F., 1927, **13**, 10, ab.
— laboratory, studies on. Berry, J. L., 1916, **1**, 693, ab.
— meat infusion peptone, use of culture media made from commercial dried yeast as a substitute for. Neill, J. M., Sugg, J. Y., Richardson, L. V., and Fleming, W. L., 1929, **17**, 329
— mineral, cultivation of organisms concerned with the oxidation of thiosulfate in. Starkey, R. L., 1934, **27**, 52, ab.
— — products of the oxidation of thiosulfate by bacteria in. Starkey, R. L., 1934, **27**, 53, ab.
— nutrient, bouillon cubes as a substitute for beef extract or meat in. Wyant, Z. N., 1920, **5**, 189
— of different hydrogen ion concentrations, growth of bacteria in. Cohen, B., and Clark, W. M., 1919, **4**, 409
— quantitative, for estimation of bacteria in soils. Cook, R. C., 1916, **1**, 100, ab.
— semifluid sugar, differentiation of intestinal organisms by. Bibb, L. B., 1927, **13**, 123
— semi-solid, apparatus for tubing. Spencer, S. C., 1923, **8**, 551
— — in cultivation and differentiation of anaerobes. Spray, R. S., 1934, **27**, 32, ab.
— sodium chloride, for separation of certain Gram-positive cocci from Gram-negative bacilli. Hill, J. H., and White, E. C., 1929, **18**, 43
— solid bacterial, comparison of the colorimetric and potentiometric methods for hydrogen ion determination, using a dilution method based on the buffer equation. Lisse, M. W., Jensen, O. G., and Tittsler, R. P., 1931, **21**, 383
— standard, for use in routine milk control work, composition of. Bowers, C. S., and Hucker, G. J., 1934, **27**, 71, ab.
— sugar-free, influence of phosphate buffer in. Slanetz, C. A., and Rettger, L. F., 1927, **13**, 10, ab.
— synthetic agar, growth of yeasts on. Fulmer, E. I., and Grimes, M., 1923, **8**, 585
— — for differentiation of the typhoid-paratyphoid group. Thompson, L., 1927, **13**, 47, ab.
— — — streptococci, method of studying the availability of. Krasnow, F., Rivkin, H., and Rosenberg, M. L., 1926, **12**, 385
— — — tubercle bacilli, action of iron and citrate in. Reed, G. B., and Rice, C. E., 1928, **16**, 97
— — preliminary report on. Doryland, C. J. T., 1916, **1**, 135
— — production and collection of *B. coli* in quantity on. Bengis, R., 1916, **1**, 576, ab.
— used in presumptive tests for *Bact. coli*, comparative study. Horwood, M. P., and Heifetz, A., 1934, **28**, 199
Medicine and bacteriology, reciprocal effects of relationship. Bayne-Jones, S., 1931, **21**, 61
— relation of bacteriologist to. Zinsser, H., 1927, **13**, 147
Medium, basal, for primary isolation of pathogens. A quickly prepared

medium including accessory growth factors from fish roe or quahaugs. James, W. E., 1934, **28,** 323
Medium blood-clot digest, for hemophilic and other bacteria. Spray, R. S., 1927, **13,** 14, ab.
— brain, discoloration by anaerobic bacteria. Hall, I. C., and Peterson, E., 1924, **9,** 211
— carbohydrate, advantages of in routine bacterial examination of milk. Sherman, J. M., 1916, **1,** 481
— characteristics of certain microörganisms as modified by the reaction of. Stearn, E. W., and Stearn, A. E., 1931, **21,** 18, ab.
— China blue-aurin-cellulose, for physiological investigation of cellulose fermentation. Sanborn, J. R., 1928, **15,** 33, ab.
— — — — — — — the physiological study of cellulose destroyers. Sanborn, J. R., 1927, **14,** 395
— cooked meat, device for tubing. Holman, W. L., 1923, **8,** 47
— — — value of. Holman, W. L., 1919, **4,** 149
— copper sulphate, for isolation of *Br. abortus* (Bang) from milk. Huddleson, I. F., 1931, **21,** 53, ab.
— corn-liver, for detection and dilution counts of various anaerobes. McClung, L. S., and McCoy, E., 1934, **28,** 267
— — — — — — — — — — — — McClung L. S., and McCoy, E., 1934, **27,** 35, ab.
— culture, sterilizable, for the gonococcus—Testicular infusion agar. Hall, I. C., 1916, **1,** 343
— double sugar, for routine diagnosis of bacillary white diarrhea, fowl typhoid, and fowl cholera. Cruickshank, G. A., 1927, **14,** 435
— effect of the oxidation-reduction character of on the growth of an aerobic form of bacteria. Allyn, W. P., and Baldwin, I. L., 1930, **20,** 417
— — — — reaction of on the characteristics of bacteria. Behavior of *Bacillus cereus.* Stearn, E. W., and Stearn, A. E., 1933, **26,** 57
— — — — — — — — — — — — — — — — *Bacillus subtilis.* Stearn, E. W., and Stearn, A. E., 1933, **26,** 37
— — — — — — — — — — — — — — — — General presentation of the problem, and results obtained with *Bacillus coli-communior, Salmonella enteritidis* and *Pseudomonas pyocyanea.* Stearn, E. W., and Stearn, A. E., 1933, **26,** 9
— Endo, for isolation of *B. dysenteriae* and double sugar for differentiation of *B. dysenteriae,* Shiga and Flexner. Kligler, I. J., and Defandorf, J., 1918, **3,** 437
— for direct isolation of caseolytic milk bacteria. Frazier, W. C., and Rupp, P., 1928, **16,** 57
— — stock cultures of streptococci and other bacteria. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9,** 111
— influence of the oxidation-reduction character of on the aerobic growth of certain bacteria. Brown, L. W., and Baldwin, I. L., 1932, **23,** 56, ab.
— Kendall's, experiments with. Carpenter, H. M., and Long, P. H., 1933, **25,** 241
— Kligler lead acetate, modification of. Bailey, S. F., and Lacy, G. R., 1927, **13,** 183
— liquid, influence of cations on bacterial sporogenesis in. Fabian, F. W., and Bryan, C. S., 1933, **25,** 33, ab.
— — mobile colonies on. Bibb, L. B., 1925, **10,** 561
— modified Loeffler's blood serum, for routine health department examination for diphtheria and streptococcus infections. Medalia, L.

S., Bailey, K. R., and Atwood, C., 1931, **21,** 119
Medium oxidation-reduction character of, effect on the initiation of yeast growth. Reid, J. J., and Baldwin, I. L., 1934, **27,** 29, ab.
— relation between oxidation-reduction potential of and bacteriostatic action of gentian violet. Ingraham, M. A., and Fred, E. B., 1933, **25,** 23, ab.
— semisolid, for anaerobic cultivation. Spray, R. S., 1933, **25,** 38
— simple mineral mixture agar, for cultivation of *Pasteurella bovisep-tica*. Scott, J. P., 1930, **20,** 9
— solid, for isolation and cultivation of *Thiobacillus thiooxidans*. Waksman, S. A., 1922, **7,** 605
— — procedure for direct tracing of bacterial growth on a. Ørskov, J., 1922, **7,** 537
— synthetic, for direct enumeration of organisms of the colon-aerogenes group. Ayers, S. H., and Rupp, P., 1918, **3,** 433
megatherium, see Bacillus
meliloti, see Rhizobium
melitensis, see Brucella
Meningitis. Rosenberger, R. C., and Bentley, D. J., 1916, **1,** 586, ab.
— epidemic, chemical versus serum treatment. Flexner, S., and Amoss, H. L., 1916, **1,** 466, ab.
— — treatment of. Neal, J. B., 1916, **1,** 365, ab.
— experimental, in guinea pigs. Branham, S. E., and Lillie, R. D., 1933, **25,** 90, ab.
— fatal, a pleomorphic anaerobe: the etiological organism in. Jackson, E. G., 1928, **15,** 48, ab.
— influenzal, specific treatment of. Fothergill, L. D., Wright, J., and Ward, H. K., 1932, **23,** 99, ab.
— purulent cerebrospinal, a case of mastoiditis complicated by. Huntington, W. H., 1916, **1,** 694, ab.
— serum, anti-, rapid preparation of. Amoss, H. L., and Wollstein, M., 1916, **1,** 366, ab.
— tuberculous, choroidal tubercle in. Bredeck, J. F., 1916, **1,** 376, ab.
Meningococci, agglutination studies with. Norton, J. F., and Broom, N. H., 1930, **19,** 32, ab.
— problems due to diversity among. Branham, S. E., 1932, **23,** 93, ab.
— viability on yeast agar medium. Eberson, F., 1920, **5,** 431
Meningococcus antitoxin: prophylactic and therapeutic tests on monkeys and other laboratory animals. Ferry, N. S., 1932, **23,** 97, ab.
— culture medium for maintaining stock cultures of. Roos, C. G. A., 1916, **1,** 67, 88
— dissociation of following cultivation in the normal rabbit's blood. Enders, J. F., 1932, **23,** 93, ab.
— further studies on, with special reference to the Shwartzman reaction. Powell, H. M., 1932, **23,** 98, ab.
— infection, lines of investigation of the mechanism of, general considerations. Murray, E. G. D., 1932, **23,** 90, ab.
— poisonous substance obtained from. Malcolm, W. G., 1932, **23,** 98, ab.
— so-called reduced oxygen tension for growing. Kohman, E. F., 1919, **4,** 571
— strains, grouping of. Olmstead, M. P., DuBois, P. L., Neal, J. B., and Schweitzer, R., 1916, **1,** 566, ab.; 681
— — — — by means of complement fixation. Olmstead, M. P., 1916, **1,** 364, ab.
— — precipitation reactions with immune serum in agar plates in relation to antigenic activity. Cohen, S. M., 1934, **27,** 85, ab.
— studies on. Webster, L. T., and Rake, G. W., 1933, **25,** 75, ab.

Meningococcus toxin, further studies. Wilson, M. A., and Riley, C. V., 1932, **23,** 95, ab.
— toxins, variations in neutralizability of as measured by local skin reactivity. Shwartzman, G., 1932, **23,** 95, ab.
Menstruum, effect of bacterial cells upon chemical composition of as influenced by the presence of various electrolytes. Shaughnessy, H. J., and Winslow, C.-E. A., 1927, **13,** 8, ab.
Mercurochrome as a bacteriological stain. Conklin, M. E., 1934, **27,** 30, ab.
Mercury, treatment of pyorrhea alveolaris and its secondary systemic infections by. Wright, B. D., 1916, **1,** 563, ab.
Meriquinones, significance of recent studies on. Clark, W. M., Cohen, B., and Gibbs, H. D., 1926, **11,** 81, ab.
Merthiolate as a preserver of biological products. Powell, H. M., and Jamieson, W. A., 1931, **21, 55,** ab.
Mesozoic pathology and bacteriology. Moodie, R. L., 1916, **1,** 384, ab.
mesentericus, see Bacillus
Metabolic activity of the bacterial cell at various phases of the population cycle. Walker, H. H., and Winslow, C.-E. A., 1932, **23,** 53, ab.; **24,** 209
Metabolism, asparagin and glycerin, of the tubercle bacillus. Dingle, J. H., and Weinzirl, J., 1932, **23,** 35, ab.; 281
— bacterial, enzymes of bacteria and. Virtanen, A. I., 1934, **28,** 447
— — The influence of phosphate buffer in sugar-free and in glucose-containing media. Slanetz, C. A., and Rettger, L. F., 1927, **13,** 10, ab.; 1928, **15,** 297
— — on the selective utilization of amino acids by bacteria. Treece, E. L., 1927, **13,** 13, ab.
— — some regulating factors in. Kligler, I. J., 1916, **1,** 663
— — stimulation by bacteriophage. Bronfenbrenner, J., 1933, **25,** 25, ab.
— carbohydrate, of organisms of the genus Mycobacterium. Merrill, M. H., 1930, **20,** 235
— — — *Ps. aeruginosa* (*B. pyocyaneus*). Sears, H. J., 1928, **15,** 11, ab.
— carbon and nitrogen, of the butyl alcohol forming organism, relationship between. Wilson, P. W., and Fred, E. B., 1930, **19,** 17, ab.
— — — — — — *Clostridium acetobutylicum*, relationship between. Wilson, P. W., Peterson, W. H., and Fred, E. B., 1930, **19,** 231
— — of genus *Mycobacterium*. End products of carbohydrate utilization as determined in synthetic media cultures. Merrill, M. H., 1931, **21,** 375
— — — — — — — Utilization of organic compounds in a synthetic medium. Merrill, M. H., 1931, **21,** 361
— cell, physiological youth of a bacterial culture as evidenced by. Walker, H. H., Winslow, C.-E. A., Huntington, E., and Mooney, M. G., 1934, **27,** 303
— — — — — — bacteria as evidenced by. Walker, H. H., Winslow, C.-E. A., Huntington, E., and Mooney, M. G., 1934, **27,** 22, ab.
— gaseous, of *L. pentoaceticus* with reference to several representative members of the Lactobacillus group. Hunt, G. A., 1933, **26,** 341
— microbial, aeration train for the study of products of. Walker, H. H., 1932, **24,** 169
— — application of the autocatalytic growth curve to. Pulley, H. C., and Greaves, J. D., 1932, **24,** 145
— mold, practical and theoretical aspects. May, O. E., and Herrick, H. T., 1934, **28,** 145

Metabolism, nitrogen, of the actinomycetes. Waksman, S. A., 1920, **5**, 1
— — — bacteria as affected by colloids and replaceable bases in soil. Conn, H. J., 1932, **23**, 77, ab.
— — — — influence of carbohydrate on. Berman, N., and Rettger, L. F., 1918, **3**, 389
— nitrogenous, in bacterial cultures. DeBord, G. G., 1923, **8**, 7
— of actinomycetes. Changes in reaction resulting from the growth of actinomycetes upon culture media. Waksman, S. A., and Joffe, J. S., 1920, **5**, 31
— — the *Bact. abortus-melitensis bronchisepticum-alcaligines* group. I. Nitrogen metabolism. McAlpine, J. G., and Slanetz, C. A., 1927, **13**, 11, ab.
— — sulfur, studies on the bacterial. Formation of hydrogen sulfide under aerobic conditions. Tanner, F. W., 1917, **2**, 585
— protein, of *C. putrefaciens* (McBryde). Parsons, L. B., and Sturges, W. S., 1927, **13**, 3, ab.
Metastatic abscesses following tonsillitis. Mills, H. B., and Sowell, G. A., 1916, **1**, 582, ab.
Methane, chemical mechanism of production of, by anaerobes. Buswell, A. M., 1935, **29**, 81, ab.
— fermentations, use of shredded asbestos in. Breden, C. R., and Buswell, A. M., 1933, **25**, 69, ab.; 1933, **26**, 379
Method in bacteriology. Hastings, E. G., 1924, **9**, 95
Methods, concerning the manual of, published by the society. Conn, H. J., Burke, V., Cohen, B., Genung, E. F., Kulp, W. L., and Wright, W. H., 1928, **16**, 145
— manual of, recent work on. Conn, H. J., Atkins, K. N., Brown, J. H., Cohen, B., Hucker, G. J., and Tanner, F. W., 1925, **10**, 315
Methyl germanic oxide, stimulation of bacterial growth rate by. Carpenter, P. L., Fulton, M., and Stuart, C. A., 1935, **30**, 137
— red reaction, correlation with Voges-Proskauer in the coli-aerogenes group of bacteria. Levine, M., 1916, **1**, 566, ab.
— — — on the correlation of the Voges-Proskauer and the. Levine, M., 1916, **1**, 87, ab.
Methylamine, N-chloro derivatives of, germicidal efficiency against anthrax spores. Tilley, F. W., and Chapin, R. M., 1930, **19**, 295
Methylene blue, chemical criteria of anaerobiosis with special reference to. Hall, I. C., 1921, **6**, 1
— — domestic, use in staining milk by the Breed method. Wall, W. A., and Robertson, A. H., 1922, **7**, 307
— — reduction test, improvement in. Burkey, L. A., 1934, **27**, 67, ab.
— — — — of milk. Thornton, H. R., and Hastings, E. G., 1927, **13**, 62, ab.
Metritis in mares, relation of encapsulated bacilli found in, to encapsulated bacilli from human sources. Edwards, P. R., 1928, **15**, 245
Mice, white, Brucella infections in. Singer, C., and Shaw, E. B., 1935, **29**, 44, ab.
Microbes, cultivation of in the peritoneal cavity of animals. Ørskov, J., 1924, **9**, 427
Microbic dissociation. Changes in the biological characters of *Shigella paradysenteriae* during dissociation and partial reversion. Mackenzie, G. M., Fitzgerald, H., and Irons, V., 1935, **29**, 583
Microbiological activity, local, in soil. Smith, N. R., and Humfeld, H., 1930, **19**, 43, ab.
Microbiology, International Society for, work of the nomenclature committee. Breed, R. S., 1932, **23**, 13, ab.

Microcalorimeter, differential, description of. Bayne-Jones, S., 1929, **17**, 105
Micrococci in the normal cow's udder. Breed, A. F., 1928, **15**, 29, ab.
Micrococcus, genus, classification of. Pribram, E., 1933, **25**, 41, ab.
— *niger*, a new pigment-forming anaerobic coccus recovered from urine in a case of general arteriosclerosis. Hall, I. C., 1930, **20**, 407
— *zymogenes*, study of. Frobisher, M., Jr., and Denny, E. R., 1928, **16**, 301
Micromanipulator for isolation of bacteria and dissection of cells. Chambers, R., 1923, **8**, 1
Microörganisms and roots, association of. Thom, C., and Humfeld, H., 1932, **23**, 79, ab.
— in a pulp and paper mill system, development and control. Sanborn, J. R., 1933, **26**, 373
— irradiation of with monochromatic light. The virus of tobacco mosaic and *Serratia marascens* as influenced by ultraviolet and visible light. Duggar, B. M., and Hollaender, A., 1934, **27**, 219
— — — — — — — Resistance to ultraviolet radiation of a plant virus as contrasted with vegetative and spore stages of certain bacteria. Duggar, B. M., and Hollaender, A., 1934, **27**, 241
— living, in ancient rocks. Lipman, C. B., 1931, **22**, 183
— soil, assimilation of nitrates by. Smith, F. B., and Brown, P. E., 1930, **19**, 43, ab.
Micropipette holder, simple. Johnson, H. W., 1923, **8**, 573
Micropipettes, case for sterilizing and storing. Wright, W. H., 1929, **17**, 10, ab.
Microscope, a light switch for. Mudge, C. S., 1927, **13**, 223
— binocular, arranged for study of colonies of bacteria. Reed, G. B., 1922, **7**, 123
— counting bacteria by means of. Breed, R. S., and Brew, J. D., 1916, **1**, 375, ab.
— use of in studying activities of bacteria in soil. Conn, H. J., 1929, **17**, 23, ab.
— — — — — — — — — — — — — Conn, H. J., 1929, **17**, 399
Microscopical examination, note on the preparation of hyphomycetes for. Boyd, M. F., 1917, **2**, 365
Micrurgical apparatus, new and simplified, especially adapted for single cell isolation. Reyniers, J. R., 1932, **23**, 183
Migration, electrophoretic, of vegetable cells. Winslow, C.-E. A., and Upton, M. F., 1926, **11**, 367
Milk, acidophilus, at room and ice-box temperatures. Kopeloff, L. M., Etchells, J. L., and Kopeloff, N., 1934, **27**, 38, ab.
— — bacteriological changes in at room and ice-box temperatures. Kopeloff, L. M., Etchells, J. L., and Kopeloff, N., 1934, **28**, 489
— acidoproteolytes in gaseous associative fermentation in. Gorini, C., 1934, **27**, 69, ab.
— action of proteolytic bacteria of on. Frazier, W. C., and Rupp, P., 1928, **16**, 65
— — — — — — — — amino acids and other simple nitrogenous compounds. Frazier, W. C., and Rupp, P., 1928, **16**, 231
— — — — — — — — casein and gelatin. Frazier, W. C., and Rupp, P., 1928, **16**, 187
— advantages of a carbohydrate medium in routine bacterial examination of. Sherman, J. M., 1916, **1**, 481
— agglutination titre as an indicator of the presence of *Bact. abortus*. Gilman, H. L., 1931, **21**, 53, ab.
— alcohol test as an index of the bacterial count and keeping quality of. Chalmers, C. H., 1928, **15**, 93

Milk analysis, the use of 0.01 cubic centimeter pipettes in bacterial. Brew, J. D., 1916, **1**, 89, ab.
— — use of lactose peptone bile media, with the addition of various triphenylmethane dyes, for detection of members of the colon group in. Poe, C. F., Hale, W. H., and Poe, F. E., 1928, **15**, 9, ab.
— and carbohydrate feeding, the influence of on the character of the intestinal flora. IV. Diet versus bacterial implantation. Hull, T. G., and Rettger, L., 1917, **2**, 47
— — other highly seeded materials, rapid method for counting living bacteria in. Frost, W. D., 1916, **1**, 374, ab.
— anomalous bacterial plate counts from. Harding, H. A., and Ward, A. R., 1928, **15**, 24, ab.
— artificially infected with two strains of *Brucella suis*, pasteurization of. Park, S. E., Graham, R., Prucha, M. J., and Brannon, J. M., 1932, **24**, 461
— aseptically drawn, bacterial flora of. Dorner, W., 1930, **19**, 44, ab.
— bacteria, caseolytic, medium for direct isolation of. Frazier, W. C., and Rupp, P., 1928, **16**, 57
— — certain, influence on Swiss cheese. Burkey, L. A., and Frazier, W. C., 1930, **19**, 49, ab.
— — destruction of botulinum toxin by. Sherman, J. M., Stark, C. N., and Stark, P. W., 1928, **15**, 35, ab.
— *Bacterium abortus* in, agglutination test as a means of studying the presence of. Cooledge, L. H., 1916, **1**, 126, ab.
— *B. coli* as an index of pasteurization of. Swenarton, J. C., 1927, **13**, 419
— — — in, gentian violet in presumptive test for. Hall, I. C., and Ellefson, L. J., 1918, **3**, 355
— blood-red yeast from. Brush, A. C., 1927, **13**, 58, ab.
— bottles, chemical sterilization of in relation to tubercle bacilli. Wade, E. M., Archibald, R. W., and Whittaker, H. A., 1928, **15**, 189
— — unwashed, effect of alkali solutions upon the bacteria of. Mudge, C. S., and Lawler, B. M., 1928, **15**, 25, ab.
— causes of high bacterial counts in. Pease, H. D., 1916, **1**, 567, ab.
— certified, hemolytic streptococci of the beta type found in. Brown, J. H., Frost, W. D., and Shaw, M., 1926, **11**, 110, ab.
— character of acids produced by hemolytic and non-hemolytic streptococci from. I. Introduction. Langwill, B., 1924, **9**, 79
— comparison of rapid method of counting bacteria in with standard method. Frost, W. D., 1916, **1**, 103, ab.
— control work, routine, composition of standard media for use in. Bowers, C. S., and Hucker, G. J., 1934, **27**, 71, ab.
— copper sulphate medium for isolation of *Br. abortus* (Bang) from. Huddleson, I. F., 1931, **21**, 53, ab.
— counting the living bacteria in—a practical test. Frost, W. D., 1917, **2**, 567
— cow's, further studies of the presence and significance of agglutinins for *Bact. abortus* (Bang) in. Cooledge, L. H., 1916, **1**, 117, ab.
— detection of colon organisms in. Stark, C. N., and Curtis, L. R., 1935, **29**, 27, ab.
— — — — — — — by formate ricinoleate broth. Stark, C. N., and England, C. W., 1935, **29**, 26, ab.
— — — — *Escherichia-Aerobacter* group in. Farrell, M. A., 1935, **30**, 654, ab.
— effect of heat produced by alternating electric current on tubercle bacilli in. Carpenter, C. M., 1929, **17**, 38, ab.
— — — temperature of incubation on the agar plate count of. Peder-

son, C. S., and Yale, M. W., 1934, **27**, 70, ab.
Milk, estimation of bacteria in, efficiency of the present standard agar. Sears, H. J., and Case, L. L., 1918, **3**, 531
— examination, differential stain for. Broadhurst, J., and Long, M. A., 1932, **23**, 57, ab.
— freshly drawn, streptococci found in. Frost, W. D., and Engelbrecht, M. A., 1933, **25**, 58, ab.
— — — thermophiles in. Hansen, P. A., 1930, **19**, 46, ab.
— from various species, lysozyme content of and its relation to the fecal content of their nurslings. Prickett, P. S., Miller, N. J., and McDonald, F. G., 1933, **25**, 61, ab.
— gentian violet lactose pepton bile for detection of *B. coli* in. Kessler, M. A., and Swenarton, J. C., 1927, **14**, 47
— germicidal action in. Chambers, W. H., 1920, **5**, 527
— growth of pathogenic organisms in. Wahby, A. M., and Sherman, J. M., 1933, **25**, 60, ab.
— heated, decomposition products of spore-bearing bacteria in. Lisk, H., 1924, **9**, 1
— hemolytic streptococci found in. Their significance and their relation to streptococci of human origin. Davis, D. J., 1916, **1**, 83, ab.
— infection with *Brucella abortus*, incidence in a vaccinated herd. Caldwell, D. W., Parker, N. J., and Medlar, E. M., 1934, **27**, 72, ab.
— influence of bacteria on the oxidation-reduction potential of. II. Influence of associated cultures of milk organisms. Frazier, W. C., and Whittier, E. O., 1931, **21**, 253
— — — — — — — — — — I. Influence of pure cultures of milk organisms. Frazier, W. C., and Whittier, E. O., 1931, **21**, 239
— — — conditions in the barn upon the germ content of. Prucha, M. J., and Weeter, H. M., 1916, **1**, 109, ab.
— isolation of *Brucella abortus* from. Fitch, C. P., and Bishop, L. M., 1935, **30**, 332, ab.
— large numbers of *Bact. abortus var. lipolyticus* which may be found in. Evans, A. C., 1917, **2**, 185
— litmus reaction, *Streptococcus lactis* and. Demeter, K. J., 1926, **11**, 97, ab.
— market, problems in control of. Breed, R. S., 1935, **30**, 446, ab.
— methylene blue reduction test of, some aspects of. Thornton, H. R., and Hastings, E. G., 1927, **13**, 62, ab.
— milk-powder agar for the determination of bacteria in. Ayers, S. H., and Mudge, C. S., 1920, **5**, 565
— number of spores of anaerobic bacteria in. Hussong, R. V., and Hammer, B. W., 1930, **19**, 89
— organisms, influence of associated cultures on the oxidation-reduction potential of milk. Frazier, W. C., and Whittier, E. O., 1931, **21**, 253
— — — — — pure cultures of on the oxidation-reduction potential of milk. Frazier, W. C., and Whittier, E. O., 1931, **21**, 239
— — ropy, feeds as a source of. Stark, C. N., and Foter, M. J., 1931, **21**, 37, ab.
— oxidation reduction in. Choice of an indicator for the reduction test. The reduction of janus green B in milk. Thornton, H. R., and Hastings, E. G., 1929, **18**, 319
— — — — — Oxidation-reduction potentials and the mechanism of reduction. Thornton, H. R., and Hastings, E. G., 1929, **18**, 293
— pasteurization, acidoproteolytes (Gorini) in. Gorini, C., 1931, **21**, 42, ab.
— — of, present status. Ayers, S. H., 1916, **1**, 125, ab.

Milk, pasteurized, at 70°F., comparison between bacterial plate count of and acid development in. Ward, A. R., Harding, H. A., Adams, F. O., and Harding, H. G., 1932, **23,** 59, ab.
— — bacterial flora of. Harding, H. A., Ward, A. R., and Harding, H. G., 1929, **17,** 35, ab.
— — cause and significance of pin-point colonies from. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9,** 285
— — non - spore - forming thermoduric bacteria from. Robertson, A. H., 1928, **15,** 26, ab.
— — significance of thermophilic spore-forming bacteria in. Breed, R. S., Prickett, P. S., and Yale, M. W., 1929, **17,** 37, ab.
— plate-count method of enumerating bacteria in. Albus, W. R., 1928, **16,** 269
— — of, factors that may affect. Albus, W. R., 1928, **15,** 25, ab.
— proteins of, quantitative action of enzymes of seven specific organisms upon. Parfitt, E. H., and Spitzer, G., 1924, **9,** 123
— proteolytic bacteria of. Frazier, W. C., and Rupp, P., 1928, **15,** 29, ab.
— — — — — Action on milk serum. Frazier, W. C., and Rupp, P., 1931, **21,** 263
— — — — — action on amino acids and other simple nitrogenous compounds. Frazier, W. C., and Rupp, P., 1928, **16,** 231
— — — — — — — casein and gelatin. Frazier, W. C., and Rupp, P., 1928, **16,** 187
— — — — Medium for direct isolation of caseolytic milk bacteria. Frazier, W. C., and Rupp, P., 1928, **16,** 57
— quantitative and qualitative distribution of lactobacilli in. Sherman, J. M., and Stark, C. N., 1927, **13,** 60, ab.
— rate of chemical change in brought about by certain lactic acid streptococci. Kelly, C. D., 1932, **23,** 58, ab.
— raw, origin of the growth-restraining substance in. Curran, H. R., 1931, **21,** 38, ab.
— "reactor," utilization of in tuberculomedicine. Fitzpatrick, C. B., 1916, **1,** 127, ab.
— ropy, bacteriophage as a precursive agent in the development of organisms causing. Stark, C. N., and Stark, P., 1932, **23,** 59, ab.
— reduction of janus green B in. Thornton, H. R., 1929, **17,** 34, ab.
— samples, market, fixation of bacteria in. Cole, W. E., Allen, P. W., and Cameron, G. M., 1927, **13,** 63, ab.
— sampling for bacterial analysis. Breed, R. S., 1916, **1,** 105, ab.
— serum, action of proteolytic bacteria on. Frazier, W. C., and Rupp, P., 1931, **21,** 263
— significance of colon bacteria and streptococci in. Rogers, L. A., Clark, W. M., and Evans, A. C., 1916, **1,** 567, ab.
— spore-bearing bacteria in. Lawrence, J. S., and Ford, W. W., 1916, **1,** 277
— standards, city, relation of bacteriology to. Harding, H. A., 1916, **1,** 110, ab.
— status of bacteriology and epidemiology of septic sore throat from. Davis, D. J., 1932, **23,** 87, ab.
— streptococci detected in freshly drawn samples of. Plastridge, W. N., and Weirether, F. J., 1935, **30,** 212, ab.
— supply, Baltimore, "pin point colony" organisms in. Swenarton, J. C., 1926, **11,** 285
— thermophile coagulating, under practical conditions. Hussong, R. V., and Hammer, B. W., 1928, **15,** 179
— thermophiles in. Mudge, C. S., and Thorwaldson, M. L., 1930, **19,** 47, ab.

Milk, thermophilic bacteria from. Tanner, F. W., and Harding, H. G., 1926, **11**, 96, ab.
— — organisms in. Prickett, P. S., 1928, **15**, 28, ab.
— — spore-formers associated with. Prickett, P. S., 1929, **17**, 36, ab.
— transparent, as a bacteriological medium. Brown, J. H., and Howe, P. E., 1922, **7**, 511
— use of domestic methylene blue in staining by the Breed method. Wall, W. A., and Robertson, A. H., 1922, **7**, 307
— utensils, sterilization of, relative efficiency of various methods in the destruction of *Es. coli*. Lochhead, A. G., and Johns, C. K., 1933, **25**, 62, ab.
— weighted mean method of averaging bacterial counts of. Bigger, J. W., and Griffiths, L. L., 1933, **25**, 253
Milks, condensed and evaporated, study of. Bengtson, I. A., 1916, **1**, 126, ab.
— fermented. Rogers, L. A., 1916, **1**, 125, ab.
Mimosa pudica L., nodule organism of. Leonard, L. T., 1934, **27**, 55, ab.
Mineral water industry, scientific methods of control in the. Rector, F. L., 1916, **1**, 102, ab.
Mitogenetic experiments, disagreement in. Rahn, O., 1934, **28**, 153
— radiation, significance of "induction effects" in. Rahn, O., and Tuthill, J. B., 1933, **25**, 27, ab.
— rays, radiation by bacteria and higher plants. Mellon, R. R., von Rashevsky, N., and von Rashevsky, E., 1929, **17**, 5, ab.
Mobility of colonies of *B. rotans*. Roberts, J. L., 1935, **29**, 229
Molasses, cane, acceleration of alcoholic fermentation of by the use of vegetable carbons and other inert substances. Owen, W. L., and Denson, W. P., 1929, **17**, 28, ab.
Mold, bacterial-inhibitory substance produced by. Reid, R. D., 1935, **29**, 215
— isolated from the hair of children affected with ringworm of the scalp. Pribram, E., 1930, **19**, 31, ab.
— metabolism, practical and theoretical aspects. May, O. E., and Herrick, H. T., 1934, **28**, 145
— on the surface of cheese, control of. Rogers, L. A., 1932, **23**, 62, ab.
— or metabolic products, ability to inhibit bacterial growth. Reid, R. D., 1934, **27**, 28, ab.
— outbreak of in a cheese factory. Dunham, D. H., 1929, **17**, 39, ab.
— spores, effect of pasteurization on. Thom, C., 1916, **1**, 459, ab.
— — pasteurization applied to. Thom, C., and Ayers, S. H., 1916, **1**, 89, ab.
Molding, pin-spot, on shell eggs in cold storage. James, L. H., and Swenson, T. L., 1930, **19**, 55, ab.
Molds, certain soil, phosphate assimilation by. Brown, P. E., and Smith, F. B., 1930, **19**, 43, ab.
— *Dictyostelium* and other slime, in soil, distribution of. Thom, C., and Raper, K., 1932, **23**, 80, ab.
— effect of concentrated salt and sugar solutions on the thermo-death times of. Wallace, G. I., and Tanner, F. W., 1931, **21**, 32, ab.
— production of yeast-growth stimulants by. *Aspergillus niger*, *Trichoderma lignorum*, and *Aspergillus clavatus*. Schopmeyer, H., and Fulmer, E. I., 1931, **22**, 23
— some, the bactericidal, bacteriolytic or inhibitory substance produced by, and some factors which influence its production. Reid, R. D., 1933, **25**, 31, ab.
— spoilage of maple products by. Fellers, C. R., 1933, **25**, 67, ab.
— synthesis of aromatic amino acids from inorganic nitrogen by, and

the value of mold proteins in diets. Skinner, C. E., 1934, **28,** 95
Monilia commonly found in sprue, further experimentation with in animals. Ashford, B. K., 1916, **1,** 467, ab.
— -like organisms from a trickling filter receiving creamery wastes. Goresline, H. E., and Levine, M., 1930, **19,** 51, ab.
Monkeys, pathogenicity of species of the genus *Brucella* for. Huddleson, I. F., 1929, **17,** 58, ab.
Monosaccharids, fermentation of by organisms of the *abortus-melitensis* group. Coleman, M. B., Owen, H. H., and Dacey, H. G., 1930, **19,** 34, ab.
Moore, Veranus Alva. 1859–1931. Gage, S. H., 1931, **22,** 1
Mordants, staining of flagella of bacteria, with special reference to. Maneval, W. E., 1931, **21,** 313
Morgan bacillus. Jordan, E. O., Crawford, R. R., and McBroom, J., 1935, **29,** 131
— group of bacilli named after, five cases of infection of the urinary tract due to. Waaler, E., 1931, **22,** 261
— No. 1, bacillus of. Thjøtta, T., 1920, **5,** 67
morgani, see Bacterium
Morphological changes during the growth of bacteria. Clark, P. F., and Ruehl, W. H., 1919, **4,** 615
Morphology, bacterial, study in. McDonald, J. F., Little, J. T., and Ruckensteiner, E., 1927, **13,** 255
— of bacteria, further studies. Bergstrand, H., 1923, **8,** 365
Mortality, factors determining the rate of in bacteria exposed to alkalinity and heat. Watkins, J. H., and Winslow, C.-E. A., 1932, **24,** 243
— of experimentally infected animals, effect of chance on. Halvorson, H. O., 1935, **30,** 330, ab.
Mosaic disease of tobacco, some properties of. Allard, H. A., 1916, **1,** 706, ab.
— tobacco, root inoculation with the virus of. Mulvania, M., 1930, **19,** 23, ab.
— virus in tomato plants, spread of. McCubbin, W. A., and Smith, F. F., 1930, **19,** 23, ab.
Motility, bacterial. Jordan, E. O., Caldwell, M. E., and Reiter, D., 1934, **27,** 165
— — semi-solid agar for detection of. Tittsler, R. P., and Sandholzer, L. A., 1935, **29,** 15, ab.
— of bacteria as effected by hydrogen ion concentrations. Reed, G., and MacLeod, D. J., 1924, **9,** 119
Motion pictures, phases in growth in size of bacilli and yeast measured from. Bayne-Jones, S., and Adolph, E. F., 1932, **23,** 14, ab.
— — spore formation in *B. megatherium* as shown by. Bayne-Jones, S., and Petrilli, A., 1932, **23,** 45, ab.
Mouse test, failure of to demonstrate the presence of type-I pneumococcus in sputum. Gilbert, R., and Davenport, C. K., 1927, **13,** 35, ab.
Mouth, bacterial content of, method for estimating by direct count, Crowley, M. C., and Rickert. U. G., 1935, **30,** 395
— microbiology of. Bartels, H. A., 1935, **30,** 545, ab.
Mouths of young adults, fusiform bacilli and spirochetes in. Hotchkiss, M., 1931, **21,** 44, ab.
Muck, relationship between biological activities and certain chemical constituents of. Batchelor, H. W., and Paschall, A. H., 1935, **29,** 83, ab.
Mucosus-capsulatus group, systematic study with special reference to the biological position of *Klebsiella pneumoniae* and *Aerobacter aerogenes*. Grant, C. W., and Rettger, L. F., 1933, **25,** 42, ab.

Mud of a fresh water lake, calcium-precipitating bacteria from. Williams, F. T., and McCoy, E., 1933, **25**, 57, ab.
multifermentans, see Clostridium
Mumps, experimental study of. Wollstein, M., 1916, **1**, 379, ab.
Muscle, haddock, chemical changes exhibited in sterile and in contaminated, at different temperatures. Nickerson, J. T. R., and Proctor, B. E., 1935, **30**, 383
Muscular tissues of apparently normal animals, bacteria in. Reith, A. F., 1926, **12**, 367
Mushroom nutrition. Waksman, S. A., and Nissen, W., 1932, **23**, 81, ab.
Mutation, bacterial, an example of. Pryer, R. W., 1926, **11**, 89, ab.
— metabolic, and colonial dissociation in genus *Bacterium*. Hall, I. C., 1935, **29**, 13, ab.
— myth, microbic dissociation and. Hadley, P., 1927, **13**, 41, ab.
— of certain pathogenic fungi. Davis, D. J., 1926, **11**, 90, ab.
Mutations, bacterial. d'Herelle, F., and Beecroft, R., 1932, **23**, 17, ab.
Mycobacteria, morphology of. McCarter, J., and Hastings, E. G., 1935, **29**, 503
— of avian tuberculosis and "rat leprosy," single cell dissociation of. Kahn, M. C., and Schwarzkopf, H., 1933, **25**, 157
Mycobacterium, see also: Acid-fast bacteria
— *see* also *Bacterium*
— *see* also Tubercle bacillus
— *Calmette-Guerin* (B.C.G.). Biological characteristics, cultural "dissociation" and animal experimentation. Petroff, S. A., Branch, A., and Steenken, W., Jr., 1929, **17**, 57, ab.
— certain species, ergosterol content and effect of ergosterol upon growth (final report). Prickett, P. S., and Massengale, O. N., 1931, **21**, 9, ab.
— genus, carbohydrate metabolism of organisms of. Merrill, M. H., 1930, **20**, 235
— — carbon metabolism of. Utilization of organic compounds in a synthetic medium. Merrill, M. H., 1931, **21**, 361
— — — — — End products of carbohydrate utilization as determined by in synthetic media cultures. Merrill, M. H., 1931, **21**, 375
— *leprae*, dissociation of. Reed, G. B., 1932, **24**, 357
— — — — Reed, G. B., 1931, **21**, 12, ab.
— *smegmatis*, effect of sodium disecondary butyl naphthalene sulphonate on growth of. Katz, J., and Lipsitz, A., 1935, **30**, 419
— *tuberculosis*, cytology of. Knaysi, G., 1929, **17**, 56, ab.
— — ergosterol content of and effect of ergosterol (activated and unactivated) on growth of. Prickett, P. S., Massengale, O. N., and Cox, W. M., Jr., 1930, **19**, 8, ab.
Mycoderma, genus of fungi, isolated from the skin of an epidemic perlèche. Pribram, E., 1930, **19**, 31, ab.
mycoides, see Bacillus
Myxobacteriales, subgroups and genera of. Buchanan, R. E., 1918, **3**, 541
Myxoma virus, Californian strain of. Kessel, J. F., and Fisk, R. T., 1932, **23**, 113, ab.

N

necrophorus, see Bacterium
Neisseria, *see* also: *Gonococcus* and *Meningococcus*
nephritidis-equi, see Bacterium
niger, see Aspergillus
niger, see Micrococcus
Nitrate accumulation in soils following the growth of crops. Lyon, T. L., 1927, **13**, 50, ab.

Nitrate content of lake waters, seasonal variations and their relation to certain types of bacteria. Domogalla, B. P., 1926, **11**, 93, ab.
— fertilization, effect upon the relationship between the host plant and various strains of *Rhizobium* spp. Dunham, D. H., and Baldwin, I. L., 1930, **19**, 42, ab.
— formation in acid soils. Fred, E. B., and Graul, E. J., 1916, **1**, 558, ab.
— production by some strains of cowpea and soybean organisms. Leonard, L. T., 1929, **17**, 19, ab.
— reduction test, use of in characterizing bacteria. Conn, H. J., and Breed, R. S., 1919, **4**, 267
Nitrates, assimilation of by soil microorganisms. Smith, F. B., and Brown, P. E., 1930, **19**, 43, ab.
— factors influencing the reduction of by bacteria in semisolid media. Zobell, C. E., 1932, **24**, 273
— production of hydroxylamine by the reduction of, by various pure cultures of bacteria. Lindsey, G. A., and Rhines, C. M., 1932, **24**, 489
— — — use of agar slants in detecting ammonia production and its relation to. Hucker, G. J., and Wall, W. A., 1922, **7**, 515
— reduction to nitrites by *Salmonella pullorum* and *Salmonella gallinarum*. Tittsler, R. P., 1930, **19**, 261
Nitrification and the nitrifying organisms. I. Gowda, R. N., 1924, **9**, 251
— carbon and nitrogen relations of the nitrite ferment. Bonazzi, A., 1921, **6**, 479
— effect of some manganese salts on. Brown, P. E., and Minges, G. H., 1916, **1**, 677, ab.
— intensive nitrate formation in solution. Bonazzi, A., 1919, **4**, 43
— mechanism of ammonia oxidation. Bonazzi, A., 1923, **8**, 343
Nitrifying bacteria, marine, oxidation-reduction potentials from activity of. Zobell, C. E., 1935, **29**, 78, ab.
Nitrite ferment, carbon and nitrogen relations of. Bonazzi, A., 1921, **6**, 479
— test as applied to bacterial cultures. Wallace, G. I., and Neave, S. L., 1927, **14**, 377
Nitrites, factors influencing the reduction of by bacteria in semisolid media. Zobell, C. E., 1932, **24**, 273
— production of hydroxylamine by the reduction of, by various pure cultures of bacteria. Lindsey, G. A., and Rhines, C. M., 1932, **24**, 489
— reduction of nitrates to by *Salmonella pullorum* and *S. gallinarum*. Tittsler, R. P., 1930, **19**, 261
Nitrobacteriaceae, subdivisions and genera of. Buchanan, R. E., 1918, **3**, 175
Nitro-cultures and their commercial application. Harrison, F. C., 1916, **1**, 456, ab.
Nitrogen, amino-acid, Van Slyke method for determination of as applied to the study of bacterial cultures. Lamson, R. W., 1924, **9**, 307
— alleged fixation of, by germinating peas. Smyth, E. M., and Wilson, P. W., 1935, **30**, 330, ab.
— assimilating organisms in manure. Fulmer, H. L., and Fred, E. B., 1917, **2**, 423
— fixation and denitrification in incubated soils, recurrent periodism of. Batchelor, H. W., and Curie, I. H., 1930, **19**, 42, ab.
— — by azotobacter, specific influence of acidity on the mechanism of. Burk, D., Lineweaver, H., and Horner, C. K., 1934, **27**, 325
— — — *Bacterium aerogenes* and related species. Skinner, C. E., 1928, **15**, 9, ab.

Nitrogen, fixation by pure cultures of anaerobic butyric acid-forming bacteria. McCoy, E., and Higby, W. M., 1928, **15**, 8, ab.
— — — by germinating seeds of leguminous plants. Orcutt, F. S., Shannon, A. M., and Wilson, P. W., 1934, **27**, 55, ab.
— — carbohydrate relationship in symbiotic process of. Wilson, P. W., 1935, **29**, 82, ab.
— — process of certain leguminous plants, effect of pCO_2 on. Wilson, P. W., and Fred, E. B., 1933, **25**, 54, ab.
— fixed, influence on Azotobacter. Burk, D., and Lineweaver, H., 1930, **19**, 389
— -fixing bacteria in old volcanic ash. Smith, N. R., 1932, **23**, 75, ab.
— — non-symbiotic, in soils, spontaneous culture and silica gel plate methods for studying. Walker, R. H., Sullivan, J. W., and Pohlman, G. G., 1930, **19**, 39, ab.
— — physical factors affecting the determination of the number of in the soil. Batchelor, H. W., 1933, **25**, 57, ab.
— — urease content of. Anderson, J. A., 1926, **11**, 92, ab.
— organisms of the soil, stimulating influence of arsenic upon. Greaves, J. E., 1916, **1**, 554, ab.
— further studies on bacterial nutrition: the utilization of proteid and non-proteid. Rettger, L. F., Berman, N., and Sturges, W. S., 1916, **1**, 15; 121, ab.
— inorganic, synthesis of aromatic amino acids from by molds, and the value of mold proteins in diets. Skinner, C. E., 1934, **28**, 95
— metabolism of actinomycetes. Waksman, S. A., 1920, **5**, 1
— — — the *Bact. abortus-melitensis bronchisepticum - alcaligenes* group. McAlpine, J. G., and Slanetz, C. A., 1927, **13**, 11, ab.
— protein and non-protein, further studies on the utilization of in bacterial nutrition. Berman, N., and Rettger, L. F., 1918, **3**, 367
— source, effect on oxygen consumption by Rhizobium. Walker, R. H., and Anderson, D. A., 1933, **25**, 53, ab.
Nitrogenous compounds, simple, action of proteolytic bacteria of milk on. Frazier, W. C., and Rupp, P., 1928, **16**, 231
— organic compounds and sodium salts of organic acids, utilization of by certain soil algae in darkness and in the light. Skinner, C. E., and Gardner, C. G., 1930, **19**, 161
Nitrosomonas, isolation and some of the characteristics of a single cell culture of. Nelson, D. H., 1930, **19**, 10, ab.
Nodule bacteria, legume, accessory factor for. Sources and activity. Allison, F. W., and Hoover, S. R., 1934, **27**, 561
— — — use of asparagus extract in media for cultivation of. Carroll, W. R., 1929, **17**, 21, ab.
— — nonbeneficial, effects on Austrian winter peas. Leonard, L. T., and Dodson, W. R., 1932, **23**, 69, ab.
— forming bacteria, a study of the. Ockerblad, F. O., 1916, **1**, 100, ab.
— formation on excised roots of the bean. Lewis, K. H., and McCoy, E., 1933, **25**, 55, ab.
— — variation in. Leonard, L. T., 1916, **1**, 456, ab.
— organism of *Mimosa pudica L.* Leonard, L. T., 1934, **27**, 55, ab.
Nomenclature and classification of the bacteria, studies on the. The families of the Eubacteriales. Buchanan, R. E., 1917, **2**, 347
— — — — — — — Subdivisions and genera of the Spirillaceae and Nitrobacteriaceae. Buchanan, R. E., 1918, **3**, 175

Nomenclature and classification of the bacteria, Subgroups and genera of the Bacteriaceae. Buchanan, R. E., 1918, **3**, 27
— — — — — — — studies on the. Subgroups and genera of the Coccaceae. Buchanan, R. E., 1917, **2**, 603
— — — — — — — — — — The primary subdivisions of the Schizomycetes. Buchanan, R. E., 1917, **2**, 155
— — — problems in, now before the International Committee on Bacteriological Nomenclature. Breed, R. S., 1935, **30**, 329, ab.
— bacterial, present status. Buchanan, R. E., 1933, **25**, 41, ab.
— — the problem of. Studies in the nomenclature and classification of bacteria. Buchanan, R. E., 1916, **1**, 591
— Committee of the International Society for Microbiology, work of. Breed, R. S., 1932, **23**, 13, ab.
— of the Actinomycetaceae. Breed, R. S., and Conn, H. J., 1919, **4**, 585; 1920, **5**, 489
— — — bacteria. Subgroups and genera of the Actinomycetales. Buchanan, R. E., 1918, **3**, 403
— — — — — — — — — — Chlamydobacteriales. Buchanan, R. E., 1918, **3**, 301
— — — — — — — — — — Myxobacteriales and Spirochaetales. Buchanan, R. E., 1918, **3**, 541
— — — — — — — — — — Thiobacteriales. Buchanan, R. E., 1918, **3**, 461
— — legume root nodule bacteria. Baldwin, I. L., and Fred, E. B., 1928, **15**, 8, ab.
— — the root-nodule bacteria of the leguminosae. Baldwin, I. L., and Fred, E. B., 1929, **17**, 141
— some problems in bacterial. Buchanan, R. E., 1916, **1**, 82, ab.
Non-pathogenic bacteria, aerobic, spore-bearing, studies on. Part I. Introduction. Ford, W. W., 1916, **1**, 273
Notes and queries. 1926, **12**, 85, 299
Nucleic acid, influence on azotobacter. Itano, A., 1923, **8**, 483
Nurseries, forest, a serious disease is caused by *Peridermium filamentosum*. Weir, J. R., and Hubert, E. E., 1916, **1**, 132, ab.
Nurslings of various species, relation of lysozyme content of milk to fecal flora of. Prickett, P. S., Miller, N. J., and McDonald, F. G., 1933, **25**, 61, ab.
Nutrition, bacterial: brief note on the production of erepsin (peptolytic enzyme) by bacteria. Berman, N., and Rettger, L. F., 1916, **1**, 537
— — the utilization of proteid and non-proteid nitrogen. Rettger, L. F., Berman, N., and Sturges, W. S., 1916, **1**, 15; 121, ab.
— — — — — — protein and non-protein nitrogen. Berman, N., and Rettger, L. F., 1918, **3**, 367
— carbon and nitrogen, of *Thiobacillus thiooxidans*. Starkey, R. L., 1925, **10**, 165
Nutritive value of media, effect of hydrogen ion concentration on the production of precipitates in a solution of peptone and its relation to the. Kligler, I. J., 1917, **2**, 351
Nuts as a possible source of *Escherichia coli* found in candy. Weinzirl, J., 1929, **17**, 29, ab.

O

Oedematiens, antitoxin, standardization of. Bengtson, I. A., 1935, **29**, 46, ab.
oedematoides, see Clostridium
Oil and water systems, behaviour of acid-fast bacteria in. Reed, G. B., and Rice, C. E., 1931, **22**, 239
Oils, essential, irradiated, bactericidal action of vapors of. Reiner-Deutsch, W., and Molnar, N., 1935, **30**, 444, ab.

Oils, irradiated, germicidal activity of vapors from. Harris, R. S., Bunker, J. W. M., and Milas, N. A., 1932, **23**, 429
— sterilization of by ultra violet rays. Fairhall, L. T., and Bates, P. M., 1920, **5**, 49
Oil-well brine samples, bacteria in. Neave, S. L., and Buswell, A. M., 1926, **12**, 133
Ointments, U. S. P., and N. F., antiseptic action. Reddish, G. F., and Wales, H., 1929, **17**, 44, ab.
Olive, Spanish green, bacteriologic study of. Smyth, H. F., 1927, **13**, 56, ab.
Olives, causative factor of "floaters" during the curing of. Alvarez, R. S., 1926, **12**, 359
— spoilage by colon bacilli. Tracy, R. L., 1934, **28**, 249
Onions, imported canned, thermophilic microörganisms from. Prickett, P. S., 1931, **21**, 29, ab.
Ophthalmia, periodic, in the horse, properties of a toxin produced by an organism isolated in. Rosenow, E. C., 1928, **15**, 38, ab.
Opsonins, endothelial. Manwaring, W. H., and Coe, H. C., 1916, **1**, 686, ab.
Organic acids, salts of, decomposition by bacteria of salmonella genus. Hajna, A. A., 1935, **29**, 253
— — sodium salts of, utilization of nitrogenous organic compounds and by certain soil algae in darkness and in the light. Skinner, C. E., and Gardner, C. G., 1930, **19**, 161
— matter, decomposition of, in sea water. Bacterial multiplication in stored sea water. Waksman, S. A., and Carey, C. L., 1935, **29**, 531
— — — — — — — — Influence of addition of organic substances upon bacterial activities. Waksman, S. A., and Carey, C. L., 1935, **29**, 545
Organo-mercury compounds, some new water soluble, bacteriological evaluation. Waldo, J. H., Shonle, H. A., and Powell, H. M., 1931, **21**, 323
oryzae, *see Aspergillus*
Osmotic pressure, influence on spore germination. Curran, H. R., 1931, **21**, 197
Ostwald viscosimeter for the determination of the liquefaction of gelatin by bacteria. Shaw, F. W., 1924, **9**, 315
Ovarian cysts, contents of. Leary, J. T., Hartz, H. J., and Hawk, P. B., 1916, **1**, 579, ab.
Ovaritis, acute, of anginal origin, peritonitis following. Wilder, R. M., 1916, **1**, 257, ab.
— bacteriology and experimental production of. Rosenow, E. C., and Davis, C. H., 1916, **1**, 584, ab.
Oxalic acid test for indol. Koser, S. A., and Galt, R. H., 1926, **11**, 293
Ox-bile, effect of oral administration of on appearance of agglutinins for *Esch. coli* in sera of normal rabbits. Barnes, LaV., 1929, **17**, 40, ab.
— sterile, blood serum with the addition of, comparison with Loeffler's coagulated blood serum. Odell, H. R., 1918, **3**, 189
Oxidation-reduction character of agar media and the growth of aerobic bacteria. Brown, L. W., and Baldwin, I. L., 1933, **25**, 29, ab.
— — — the medium, effect on the growth of an aerobic form of bacteria. Allyn, W. P., and Baldwin, I. L., 1930, **20**, 417
— — — — — — — — — initiation of yeast growth. Reid, J. J., and Baldwin, I. L., 1934, **27**, 29, ab.
— — — — — influence on the aerobic growth of certain bacteria. Brown, L. W., and Baldwin, I. L., 1932, **23**, 56, ab.
— in milk. Choice of an indicator for the reduction test. The reduction of janus green B in milk. Thorn-

ton, H. R., and Hastings, E. G., 1929, **18**, 319
Oxidation-reduction in milk. Oxidation-reduction potentials and the mechanism of reduction. Thornton, H. R., and Hastings, E. G., 1929, **18**, 293
— potential, dependence of bacteriostatic action of gentian violet on. Ingraham, M. A., 1933, **26**, 573
— — of the medium; growth of *Bacillus megatherium* in relation to. Knaysi, G., and Dutky, S. R., 1934, **27**, 109
— — of milk, influence of bacteria on. Influence of associated cultures of milk organisms. Frazier, W. C., and Whittier, E. O., 1931, **21**, 253
— — — — — — — — — — pure cultures of milk organisms. Frazier, W. C., and Whittier, E. O., 1931, **21**, 239
— potentials and growth of anaerobes. Wood, W. B., Jr., Wood, M. L., and Baldwin, I. L., 1935, **30**, 593
— — ferricyanide reducing activities in glucose-peptone cultures and suspensions of *Escherichia coli*. Clifton, C. E., and Cleary, J. P., 1934, **28**, 561
— — — — — — peptone cultures and suspensions of *Escherichia coli*. Clifton, C. E., Cleary, J. P., and Beard, P. J., 1934, **28**, 541
— — from activity of marine nitrifiers. Zobell, C. E., 1935, **29**, 78, ab.
— — in cultures of *Staphylococcus aureus*. Clifton, C. E., 1933, **25**, 495
— — — milk. Thornton, H. R., and Hastings, E. G., 1928, **15**, 26, ab.
— — propionic acid bacteria and. Stone, R. W., Wood, H. G., Erb, C., and Werkman, C. H., 1935, **29**, 86, ab.
— — relation to the growth of an aerobic form of bacteria. Allyn, W. P., and Baldwin, I. L., 1932, **23**, 369
— reactions of pneumococcal hemolysin. Cohen, B., and Shwachman, H., 1935, **29**, 54, ab.
Oxygen consumption by *Rhizobium*, effect of nitrogen source upon. Walker, R. H., and Anderson, D. A., 1933, **25**, 53, ab.
— content of the medium, growth of *Bacillus megatherium* in relation to. Knaysi, G., and Dutky, S. R., 1934, **27**, 109
— free, designation of relation of bacteria to. Bergey, D. H., 1930, **19**, 4, ab.
— requirements of biological soil processes. Murray, T. J., 1916, **1**, 507
— tension, so-called reduced, for growing the meningococcus. Kohman, E. F., 1919, **4**, 571
Oysters, Baltimore market, spirochaetes in. Dimitroff, V. T., 1926, **12**, 135
— market, bacterial content of. Berry, F., 1916, **1**, 107, ab.
Ozena and distemper. Ferry, N. S., and Noble, A., 1918, **3**, 499
ozenae, Klebsiella, see Bacterium

P

Pacific waters, preliminary bacteriological surveys in. Gee, H., 1930, **19**, 11, ab.
pallida, see Spirochaeta and *Treponema*
Paper manufacture, reduction of sulphur containing compounds in. Beckwith, T. D., and Moser, J. R., 1932, **24**, 43
— mill slimes, formation of by microorganisms. Sanborn, J. R., 1932, **23**, 70, ab.
— — system, development and control of microörganisms in. Sanborn, J. R., 1933, **26**, 373
— — — — — — — — — — — —. Sanborn, J. R., 1933, **25**, 70, ab.
paradysenteriae, see Bacterium
Paramecia as a test of bacterial inhibition. Broadhurst, J., and Oram, J., 1932, **23**, 48, ab.
— culture media for. Strong, R. M., 1916, **1**, 693, ab.
paraputrificus, see Clostridium
parasitica, see Endothia

parasiticus, see Aspergillus
Parasitism, intestinal, in dogs, complement fixation in. Kolmer, J. A., Trist, M. E., and Heist, G. D., 1916, **1**, 369, ab.
Para-typhoid B—suipestifer group, studies in differentiation. Edwards, P. R., and Rettger, L. F., 1927, **13**, 73
Paratyphoid bacilli, certain, dissociation of. The rôle of variants in the precipitation of calcium sulphite. Caldwell, M. E., 1934, **27**, 121
—.— use of brilliant green for the isolation of typhoid and from feces. Krumwiede, C., Jr., Pratt, J. S., and McWilliams, H. I., 1916, **1**, 129, ab.
— bacillus, mutating, mucoid, isolated from the urine of a carrier. Thjøtta, T., and Eide, O. K., 1920, **5**, 501
— group, synthetic media for differentiation of typhoid and. Thompson, L., 1927, **13**, 47, ab.
— outbreak, milk-borne, in Ames, Iowa. Levine, M., and Eberson, F., 1916, **1**, 464, ab.
Paratyphoids, alpha and beta, in litmus milk, note on the reaction of the. Hadley, P. B., 1917, **2**, 263
Paratyphoid-enteritidis group, studies on. Krumwiede, C., Jr., 1916, **1**, 681, ab.
paratyphosus A, see Bacterium
— *B, see Bacterium*
Paretic brain, cultural experiments with *Spirochaeta pallida* derived from. Wile, U. J., and DeKruif, P. H., 1916, **1**, 258, ab.
— living, experimental syphilis produced in the rabbit by the brain substance of. Wile, U. J., 1916, **1**, 258, ab.
Parotitis, an epidemic of appendicitis and, probably due to streptococci in dairy products. Rosenow, E. C., and Dunlap, S. I., 1916, **1**, 585, ab.
— experimental study of. Wollstein, M., 1916, **1**, 379, ab.
Passage, animal, influence on virulence and electrophoresis of pneumococci. Jacobson, M. A., and Falk, I. S., 1927, **13**, 191
Pasteurella, see Bacterium
— a study of five members (or so-called species) of the Septicemia hemorrhagica group of organisms with special reference to their action on the various carbohydrates. Besemer, A. M., 1917, **2**, 177
pasteuri, see Bacillus
Pasteurization applied to mold spores. Thom, C., and Ayers, S. H., 1916, **1**, 89, ab.
— as a public health measure. Hilliard, C. M., 1916, **1**, 566, ab.
— dried fruit, time-temperature-humidity relations in. Clague, J. A., and Fellers, C. R., 1931, **21**, 30, ab.
— effect of on mold spores. Thom, C., 1916, **1**, 459, ab.
— of dairy by-products. Breed, R. S., and Dotterrer, W. D., 1916, **1**, 106, ab.
— lethal temperatures of *Br. abortus*, with special reference to. Carpenter, C. M., and Boak, R. A., 1931, **21**, 54, ab.
— of milk artificially infected with two strains of *Brucella suis*. Park, S. E., Graham, R., Prucha, M. J., and Brannon, J. M., 1932, **24**, 461
— — — *B. coli* as an index of. Swenarton, J. C., 1927, **13**, 419
— — — the present status of. Ayers, S. H., 1916, **1**, 125, ab.
— milk, acidoproteolytes (Gorini) in. Gorini, C., 1931, **21**, 42, ab.
— — thermophilic bacteria and. Harding, H. A., and Ward, A. R., 1926, **11**, 95, ab.
— studies on. Cause and significance of pin-point colonies from pasteurized milk. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9**, 285

Pasturization studies on. The "majority" and "absolute" thermal death-points of bacteria in relation to. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9**, 279
— temperatures, study of cocci resisting. Hucker, G. J., 1928, **15**, 28, ab.
Pasteurizing plants, control of thermophilic bacteria in. Yale, M. W., 1930, **19**, 46, ab.
Pathogenic microörganisms, protection of by living tissue cells. Rous, P., and Jones, F. S., 1916, **1**, 466, ab.
Pathogenicity and classification of microörganisms. Pribram, E. A., 1931, **22**, 427
Pathogens, basal medium for the primary isolation of. A quickly prepared medium including accessory growth factors from fish roe or quahogs. James, W. E., 1934, **28**, 323
Pathology and bacteriology, mesozoic. Moodie, R. L., 1916, **1**, 384, ab.
Peas, Austrian winter, effect of non-beneficial nodule bacteria on. Leonard, L. T., and Dodson, W. R., 1932, **23**, 69, ab.
— frozen pack, lactobacilli in. Berry, J. A., 1933, **25**, 75, ab.
— germinating, alleged fixation of nitrogen by. Smith, E. M., and Wilson, P. W., 1935, **30**, 330, ab.
— thermophilic contamination in the canning of. Cameron, E. J., Williams, C. C., and Thompson, R. J., 1927, **13**, 64, ab.
Peat, biological investigation of. Itano, A., 1925, **10**, 87
— formation, occurrence of microörganisms in peat bogs and their effect on. Waksman, S. A., and Purvis, E. R., 1932, **23**, 76, ab.
Pectin fermenting bacteria. Burkey, L. A., 1928, **15**, 33, ab.
Pellagra, causation and treatment. Bond, H. E., 1916, **1**, 582, ab.
Pellagrins, stools of, *B. welchii* in. Holmes, W. H., 1916, **1**, 260, ab.
Pelvic lavage, treatment of chronic colon bacillus pyelitis by. Kretschmer, H. L., and Gaarde, F. W., 1916, **1**, 695, ab.
pentoaceticus, see Lactobacillus
Pentoses, fermentation of by certain propionic acid bacteria. Foote, M., Peterson, W. H., and Fred, E. B., 1930, **19**, 17, ab.
Peptolytic enzyme, a brief note on the production of by bacteria. Berman, N., and Rettger, L. F., 1916, **1**, 537
Pepton concentration, influence on spore formation by *Bacillus subtilis*. Williams, O. B., 1930, **19**, 11, ab.
— effect on production of tetanus toxin. Wilcox, H. L., 1921, **6**, 407
— bacteriologic, relation to the production of diphtheria toxin and antitoxin. Davis, L., 1920, **5**, 477
— cultures and suspensions of *Escherichia coli*, oxidation-reduction potentials and ferricyanide reducing activities in. Clifton, C. E., and Cleary, J. P., 1934, **28**, 561
————————————. Clifton, C E., Cleary, J. P., and Beard, P. J., 1934, **28**, 541
— the effect of hydrogen ion concentration on the production of precipitates in a solution of, and its relation to the nutritive value of media. Kligler, I. J., 1917, **2**, 351
— commercial bacteriological, chemical studies of. McAlpine, J. G., and Brigham, G. D., 1928, **16**, 251
— production of bacterial fluorescence in media made from. Georgia, F. R., and Poe, C. F., 1932, **23**, 135
— relation between chemical composition of and hydrogen sulphide production by bacteria. Tilley, F. W., 1923, **8**, 287
percolans, see Vibrio
Peridermium filamentosum, a serious disease in forest nurseries caused by.

Weir, J. R., and Hubert, E. E., 1916, **1**, 132, ab.
Peritoneal cavity of animals, cultivation of microbes in agar cylinders in. Ørskov, J., 1924, **9**, 427
— infections, antiseptic action of ether in. Saliba, J., 1916, **1**, 567, ab.
Peritonitis following acute ovaritis of anginal origin. Wilder, R. M., 1916, **1**, 257, ab.
Perlèche, epidemic, fungi of the genera *Candida*, *Cryptococcus*, and *Mycoderma* isolated from the skin of. Pribram, E., 1930, **19**, 31, ab.
Peroxidase in relation to bacterial growth with special reference to the influenza bacillus. Anderson, L. R., 1930, **20**, 371
— production by streptococci, and its possible significance. Farrell, M. A., 1935, **27**, 24, ab.
Peroxides, certain organic, bactericidal efficiency of. Proctor, B. E., and Milas, N. A., 1931, **21**, 55, ab.
pertussis, *see Bacterium*
— agglutination in. Povitzky, O. R., and Worth, E., 1916, **1**, 127, ab.
— stock vaccine, an epidemic of whooping cough treated with. Nicoll, M., Jr., and Luttinger, P., 1916, **1**, 685, ab.
Petri dish cultures, method of preparing photographs of, by direct contact printing on photographic paper. Buchholz, J. T., and Lewis, I. M., 1930, **19**, 105
— — — simple method of growing anaerobes in. Herrington, B. L., and Knaysi, G., 1930, **19**, 101
— dishes, semi-porous. Broadhurst, J., 1927, **13**, 5, ab.
Petrolatum, ultraviolet irradiated, bactericidal properties. Sears, H. J., and Black, N., 1934, **27**, 453
Petroleum-ether method for the isolation of *B. typhosus* from feces, value of. Kohn, L. A., and Krumwiede, C., Jr., 1918, **3**, 361
pCO_2, effect on the nitrogen fixation process of certain leguminous plants. Wilson, P. W., and Fred, E. B., 1933, **25**, 54, ab.
pH, *see* also Hydrogen-ion
— automatic control of, growth and acid production of *Lactobacillus acidophilus* and. Longsworth, L. G., and MacInnes, D. A., 1935, **29**, 595
— colorimetric, modification of the Brown apparatus for determining. Wright, W. H., and Harding, H. G., 1927, **13**, 10, ab.
— in biological fluids, pipette electrode for the determination of. Goresline, H. E., 1933, **25**, 435
— influence of sodium chloride on colorimetric determination of. Parsons, L. B., and Douglas, W. F., 1926, **11**, 80, ab.
— — — — — — — — — — Parsons, L. B., and Douglas, W. F., 1926, **12**, 263
— isohydric indicator methods for accurate determination of in very dilute solutions. Fawcett, E. H., and Acree, S. F., 1929, **17**, 163
— of *Escherichia coli* suspensions, effect of "low voltage" X-rays on. Dozois, K. P., Tittsler, R. P., Lisse, M. W., and Davey, W. P., 1932, **24**, 123
— — the survival test culture, effect on results of survival test with a saprophytic tubercle bacillus. Isaacs, M. L., 1930, **20**, 175
— value of preservatives, relation to toxicity for microörganisms, further observations. Cruess, W. V., and Irish, J. H., 1932, **23**, 163
— values, different, activity of bacterial proteolytic enzymes at. Spitzer, G., and Parfitt, E. H., 1930, **19**, 12, ab.
Phase reversal within the aqueous-lipoidal system of the bacterial cell-wall and its relation to spontaneous agglutinability. Mellon, R. R., 1928, **15**, 13, ab.

Phenol coefficient tests by the hygienic laboratory and department of agriculture methods. Reddish, G. F., 1930, **19**, 37, ab.
— germicidal action of halogen derivatives of and its impairment by organic matter. Klarmann, E., Shternov, V. A., and von Wowern, J., 1929, **17**, 423
— iodized, treatment of diphtheria carriers with. Ott, W. O., and Roy, K. A., 1916, **1**, 263, ab.
— treatment of human rabies with. Fielder, F. S., 1916, **1**, 579, ab.
Phenols, monohydric, relation between chemical constitution and germicidal activity of. Tilley, F. W., and Schaffer, J. M., 1926, **12**, 303
— and alcohols, relation between chemical constitution and germicidal activity of. Schaffer, J. M., and Tilley, F. W., 1927, **14**, 259
Phenolsulfonphthalein salts, "salt effects" of phosphates upon color of, spectrophotometric study of, and some biological applications. Brightman, C. L., Meacham, M. R., and Acree, S. F., 1920, **5**, 169
Phenyl mercuric chloride, differences in effect of, upon different races of bacteriophage and similarity in effect upon a phage and its homologous organisms. Goldsmith, N. R., 1935, **30**, 237
Phosphate assimilation by certain soil molds. Brown, P. E., and Smith, F. B., 1930, **19**, 43, ab.
— buffer, influence in carbohydrate-free and in glucose-containing media. Slanetz, C. A., and Rettger, L. F., 1928, **15**, 297
— — — of in sugar-free and in glucose-containing media. Slanetz, C. A., and Rettger, L. F., 1927, **13**, 10, ab.
— -acetate and phosphate-phthalate buffer mixtures, relative effect on growth of *Endothia parasitica* on malt extract and corn meal media. Meacham, M. R., Hopfield, J. H., and Acree, S. F., 1920, **5**, 305
Phosphates, "salt effects" of upon the color of phenolsulfonphthalein salts, spectrophotometric study of, and some biological applications. Brightman, C. L., Meacham, M. R., and Acree, S. F., 1920, **5**, 169
— mineral, oxidation of sulfur in soils as a means of increasing the availability of. Lipman, J. G., McLean, H. C., and Lint, H. C., 1916, **1**, 678, ab.
Photographs of petri dish cultures, method of preparing by direct contact printing on photographic paper. Buchholz, J. T., and Lewis, I. M., 1930, **19**, 105
Photometer, precision, for study of suspensions of bacteria and other microörganisms. Mestre, H., 1935, **30**, 335
Photomicrography, motion, of growth of bacteria, apparatus for. Bayne-Jones, S., and Tuttle, C., 1927, **14**, 157
Physiological difference between young and old bacterial cells. Stark, C. N., and Stark, P., 1929, **17**, 2, ab.
Physiology as basis for differentiation of bacterial genera. Buchanan, R. E., 1928, **15**, 7, ab.
— of microörganisms, vitamin effects in. Werkman, C. H., 1927, **14**, 335
— — the propionic acid bacteria. Werkman, C. H., and Kendall, S. E., 1930, **19**, 18, ab.
Phytomonas malvaceara, inhibition of in culture media containing sugars. Lewis, I. M., 1930, **19**, 423
— *rhizogenes*, certain physiological characters of. Part I. Sagen, H. E., Riker, A. J., and Baldwin, I. L., 1934, **28**, 571
— — — — — — — Part II. Hendrickson, A. A., Baldwin, I. L., and Riker, A. J., 1934, **28**, 597

Phytomonas tumefaciens, certain physiological characters of. Sagen, H. E., Riker, A. J., and Baldwin, I. L., 1934, **28**, 571
— — — — — — Hendrickson, A. A., Baldwin, I. L., and Riker, A. J., 1934, **28**, 597
— — correlation of pathogenicity and viscosity in cultures of. Berge, T. O., Riker, A. J., and Baldwin, I. L., 1935, **30**, 651, ab.
phytophthorus, *see Bacillus*
Pichia alcoholophila, Klocker, dissociation of. Wickerham, L. J., and Fabian, F. W., 1935, **29**, 11, ab.
Pigment, water soluble, produced by a variety of *Salmonella*. Deskowitz, M. W., and Buchbinder, L., 1935, **29**, 293
Pigments, carotenoid, bacterial. Ingraham, M. A., 1935, **29**, 74, ab.
Pin-point colonies from pasteurized milk, cause and significance. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9**, 285
— — in bacteriological analysis of ice cream, thermotolerant saccharophilic organisms as cause of. Fay, A. C., 1926, **11**, 96, ab.
— — thermotolerant organisms as cause of. Fay, A. C., 1927, **13**, 347
— — organisms in the Baltimore milk supply. Swenarton, J. C., 1926, **11**, 285
Pipette method as routine laboratory procedure. Gee, A. H., and Hunt, G. A., 1928, **16**, 327
plantarum, *see Lactobacillus*
Plant viruses, irradiation with monochromatic light. II. Resistance to ultraviolet radiation of a plant virus as contrasted with vegetative and spore stages of certain bacteria. Duggar, B. M., and Hollaender, A., 1934, **27**, 241
Plants, higher, some influences of development of upon the abundance and activities of microörganisms in the soil. Starkey, R. L., 1929, **17**, 26, ab.
— some characteristics of virus diseases of. Kunkel, L. O., 1927, **13**, 23, ab.
Plate count, bacterial, applicability of statistical method to. Mudge, C. S., and Lawler, B. M., 1928, **15**, 207
— — — statistical method in. Mudge, C. S., and Lawler, B. M., 1928, **15**, 24, ab.
— — method of enumerating bacteria in milk. Albus, W. R., 1928, **16**, 269
— — of milk, factors that may affect. Albus, W. R., 1928, **15**, 25, ab.
— — quantitative, accuracy of. Wright, W. H., and Thornton, H. R., 1927, **13**, 63, ab.
— counts, anomalous bacterial, from milk. Harding, H. A., and Ward, A. R., 1928, **15**, 24, ab.
— — variation in under research conditions. Prucha, M. J., 1916, **1**, 92, ab.
Plates, agar, apparatus for quantitative pouring of. Leifson, E., 1935, **30**, 423
Plating, anaerobic, a method permitting observation of growth. Jones, H. M., 1916, **1**, 339
— methods for *B. bifidus* (Tissier) and *B. acidophilus* (Moro), new differential. Torrey, J. C., 1917, **2**, 435
Plenodomus fuscomaculans, factors involved in the growth and the pycnidium formation of. Coons, G. H., 1916, **1**, 133, ab.
Pleo-antigenicity of a variant of Proteus X19. Welch, H., and Poole, A. K., 1934, **28**, 523
Pleomorphic organism, spinal, preliminary report on a. Broadhurst, J., and Pease, D., 1930, **19**, 24, ab.
Pleomorphism, bacterial variation with special reference to. Rettger, L. F., and Gillespie, H. B., 1933, **26**, 289

Pleomorphism of bacteria. Pleomorphism of *B. paratyphi B.* Kritschewski, I. L., and Ponomarewa, I. W., 1934, **28,** 111

Pneumococci and streptococci, typical and atypical, comparison of certain strains. Sickles, G. M., 1932, **23,** 86, ab.

— carbohydrate content as a criterion of the suitability of a broth for the culture of. McGuire, G., Valentine, E., Whitney, E., and Falk, K. G., 1932, **23,** 223

— dehydrated, resistance to chemicals and heat. Gay, F. P., Atkins, K. N., and Holden, M., 1931, **22,** 295

— fermentation of glycogen by. Barnes, L. A., and White, B., 1934, **27,** 106, ab.

— influence of anti-serum and of animal passage upon virulence and electrophoresis of. Jacobson, M. A., and Falk, I. S., 1927, **13,** 191

— relation between extracts, filtrates, and virulence. Pittman, M., and Falk, I. S., 1930, **19,** 327

— site and rate of destruction of, following intraperitoneal injection. Berry, F., and Melick, C. O., 1916, **1,** 584, ab.

— solubility in bile and in sodium oleate solutions. Falk, I. S., and Yang, S. Y., 1926, **11,** 106, ab.

— types in tuberculous sputum. Lyall, H. W., 1916, **1,** 695, ab.

— use of green bananas in media for the culture of. Falk, K. G., Valentine, E., McGuire, G., and Whitney, E., 1932, **23,** 235

— variants of, relations between electrophoretic potential and other characteristics of. Falk, I. S., and Jacobson, M. A., 1926, **11,** 83

— virulence and agglutinability of; electrophoretic potentials. Falk, I. S., and Jacobson, M. A., 1926, **11,** 85, ab.

Pneumococcidal powers of sodium oleate and sodium ricinoleate. Barnes, L. A., and Clarke, C. M., 1934, **27,** 107, ab.

Pneumococcus, antigenic fraction of, for human beings. Felton, L. D., 1935, **29,** 55, ab.

— bacterial allergy with. Zinsser, H., and Grinnell, F. B., 1927, **13,** 30, ab.

— distribution of the immunizing antigen in. Felton, L. D., 1934, **27,** 90, ab.

— further studies on the immunology of. Powell, H. M., Clowes, G. H. A., and Jamieson, W. A., 1929, **17,** 49, ab.

— horse serum, anti-, dissociation of the specific protein precipitate of, and a comparison with a protein isolated by chemical means from this immune serum. Felton, L. D., 1932, **23,** 105, ab.

— infection in the dog, immunity factors in. Bull, C. G., 1916, **1,** 575, ab.

— infections in mice, pathology of. Pittman, M., and Southwick, M. A., 1930, **19,** 363

— lysis of by saponin. Klein, S. J., and Stone, F. M., 1931, **22,** 387

— natural resistance of the pigeon to. Kyes, P., 1916, **1,** 701, ab.

— pneumonia, quantitative determination of the bacteremia in and its value as a prognostic indicator. Koch, K. R., 1932, **23,** 106, ab.

— serum, anti-, in experimental infections in rabbits, certain host factors involved in the protective action of. Goodner, K., 1934, **27,** 98, ab.

— — — studies on the protective substance in. Study 21. Comparison of the water-insoluble proteins with those of normal horse serum. Felton, L. D., 1933, **25,** 76, ab.

— solubility of, in saponin. The saponin-lysis reaction as a means of differentiating pneumococcus and

streptococcus. Klein, S. J., 1935, **30**, 43

Pneumococcus, solubility of, in saponin. Sensitization by ergosterol. Klein, S. J., 1933, **26**, 215

— specific polysaccharides of, precipitation by calcium phosphate. Felton, L. D., Kauffman, G., and Stahl, H. J., 1935, **29**, 149

— (*Streptococcus*) *mucosus*, mucoid encapsulated streptococci with particular reference to the differentiation of *Streptococcus epidemicus*, Mather's streptococcus of epidemic influenza and. Pilot, I., 1933, **25**, 88, ab.

— systematic study of microörganisms which decompose the specific carbohydrates of. Sickles, G. M., and Shaw, M., 1934, **27**, 106, ab.

— — — — organisms which decompose the specific carbohydrates of. Sickles, G. M., and Shaw, M., 1934, **28**, 415

— type I, chemo-immunological properties of the specific capsular polysaccharide of. Avery, O. T., Goebel, W. F., 1934, **27**, 89, ab.

— — — failure of mouse test to demonstrate in sputum. Gilbert, R., and Davenport, C. K., 1927, **13**, 35, ab.

— type II, variant obtained directly from. Rakieten, M. L., 1930, **20**, 1

— types II and III, organisms which decompose the specific carbohydrates of. Sickles, G. M., and Shaw, M., 1933, **25**, 99, ab.

— variants. Dissociants of R pneumococci and their relation to *Streptococcus viridans*. Paul, J. R., 1934, **28**, 69

— — Intermediate forms and the influence of environment in their production during in-vitro S to R and R to S transitions. Paul, J. R., 1934, **28**, 45

— — — between the S and R forms. Blake, F. G., and Trask, J. D., 1933, **25**, 289

— variation. Smooth virulent variants produced by daughter-colony dissociation of smooth pneumococcus strains. Eaton, M. D., 1935, **30**, 119

— — Variants characterized by rapid lysis and absence of normal growth under the routine method of cultivation. Eaton, M. D., 1934, **27**, 271

— variations in induced by growth in immune serum. Stryker, L. M., 1916, **1**, 571, ab.

Pneumonia, experimental, cytology of the exudate in early stages. Evans, F. A., 1916, **1**, 464, ab.

— immunological studies in. Weil, R., and Torrey, J. C., 1916, **1**, 253, ab.

— in children. Pisek, G. R., and Pease, M. C., 1916, **1**, 383, ab.

— lobar, epidemiology of. Jacobson, M. A., 1927, **13**, 31, ab.

— — experimental in rat, mucin in production of. Nungester, W. J., and Jourdonais, L. F., 1935, **29**, 34, ab.

— note on a skin reaction in. Weil, R., 1916, **1**, 252, ab.

pneumoniae, see Diplococcus and *Pneumococcus*

pneumoniae, Klebsiella, see Bacterium

Pneumotyphoid, with report of a case. Billings, F., 1916, **1**, 464, ab.

Poi, bacterial fermentation of. Allen, E. K., and Allen, O. N., 1932, **23**, 63, ab.

Polenta, red-colored, Bartolomeo Bizio's letter concerning. Merlino, C. P., 1924, **9**, 527

Poliomyelitic serum, convalescent, antibody titer of, compared with that of so-called "normal" adult serum. Brodie, M., 1932, **23**, 102, ab.

Poliomyelitis. In vitro neutralization tests using normal adult and convalescent human serums. Howitt, B. F., 1935, **29**, 61, ab.
— active immunization against. Brodie, M., 1933, **25**, 78, ab.
— — — of experimental animals and children against with formalin inactivated virus suspension. Brodie, M., 1935, **29**, 65, ab.
— anterior, filtrable forms of the Rosenow streptococcus from. Richardson, R. D., 1932, **23**, 29, ab.
— autotherapy in. Duncan, C. H., 1916, **1**, 682, ab.
— convalescents, purification of the virus neutralizing fraction of the serum of. Harrison, J. A., 1935, **29**, 63, ab.
— epidemic, concentration of virus of. Clark, P. F., and Schindler, J. A., 1930, **19**, 20, ab.
— epidemiology of. Aycock, W. L., 1932, **23**, 100, ab.
— experimental, and encephalitis. Rosenow, E. C., 1935, **30**, 329, ab.
— — immunization in. Aycock, W. L., and Kagan, J. R., 1927, **13**, 28, ab.
— — in monkeys, streptococci in the lesions of. Rosenow, E. C., 1930, **19**, 27, ab.
— — — — — — — — spinal fluid of. Rosenow, E. C., 1930, **19**, 27, ab.
— immunity to. Active immunization. Kramer, S. D., and Schaeffer, M., 1934, **27**, 85, ab.
— in monkeys, active immunization against. Brodie, M., 1934, **27**, 84, ab.
— — the rabbit, experiments with. Rosenau, M. J., and Havens, L. C., 1916, **1**, 465, ab.
— investigation into the mechanism of adult immunity against. Brodie, M., and Park, W. H., 1935, **29**, 64, ab.
— laboratory aids in diagnosis. Neal, J. B., 1916, **1**, 701, ab.
— — facts in. Klein, S. R., 1916, **1**, 695, ab.
— precipitin reaction. Rosenow, E. C., 1926, **11**, 111, ab.
— serum, production of in the horse and the use of this and convalescent serum in prevention and treatment. Park, W. H., 1932, **23**, 101, ab.
— — treatment of. Flexner, S., 1916, **1**, 682, ab.
— streptococci and viruses in. Rosenow, E. C., 1935, **29**, 40, ab.
— ultrafiltration studies with the virus of. Clifton, C. E., Schultz, E. W., and Gebhardt, L. P., 1931, **22**, 7
— virus, 1931 strain. Flexner, S. (no abstract) 1932, **23**, 100, ab.
— — adsorbed to alumina-gel, immunization of monkeys by means of. Gordon, F. B., Harrison, J. A., and Hudson, N. P., 1935, **29**, 62, ab.
— — failure to infect monkeys with through isolated intestinal loops. Lennette, E. H., and Hudson, N. P., 1935, **29**, 63, ab.
— — inactivation by serum, specificity of. Jungeblut, C. W., 1934, **27**, 81, ab.
— — some properties of. Clark, P. F., Schindler, J., and Roberts, D. J., 1930, **20**, 213
Pollen antigens, detoxification of. Rockwell, G. E., 1933, **25**, 100, ab.
— and pollen extracts. Rabbit skin reactions in quantitative estimation of activity of pollen extracts. Cromwell, H. W., and Moore, M. B., 1931, **21**, 59, ab.
— therapy in pollinosis. Oppenheimer, S., and Gottlieb, M. J., 1916, **1**, 368, ab.
Pollinosis, pollen therapy in. Oppenheimer, S., and Gottlieb, M. J., 1916, **1**, 368, ab.
Pollution, fecal, of drinking water, comparison of modified Eijkman test with standard methods of detection of. Williams, W. L., Weaver, R. H., and Scherago, M., 1933, **25**, 39, ab.

Pollution, fecal, of water, Eijkman test in detection of. Brown, J. W., and Skinner, C. E., 1930, **20**, 139
— fomites, acid-forming streptococci as indices of. Winslow, C.-E. A., and Sanjiyan, D. H., 1924, **9**, 513
— stream, predicts Federal control. Phelps, E. B., 1916, **1**, 125, ab.
Polyatomic alcohols, fermentation of by Vibrio cholerae. Nobechi, K., 1925, **10**, 197
polygenesis, see Bacterium
Polynesians, blood groups among. Nigg, C., 1928, **15**, 42, ab.
Polysaccharides, bacterial, precipitation of, with calcium phosphate. Pneumococcus. Felton, L. D., Kauffman, G., and Stahl, H. J., 1935, **29**, 149
Polythionates, production of from thiosulfate by microörganisms. Starkey, R. L., 1934, **28**, 387
Pools, swimming, revision of bacterial standards for. Broadhurst, J., and Dix, A., 1928, **15**, 23, ab.
Populations, bacterial, certain factors influencing size of. Cleary, J. P., Beard, P. J., and Clifton, C. E., 1935, **29**, 205
— — means of determining by the dilution method. Halvorson, H. O., and Ziegler, N. R., 1933, **25**, 101
— cycle, metabolic activity of the bacterial cell at various phases of. Walker, H. H., and Winslow, C.-E. A., 1932, **23**, 53, ab.
— — — — — — — — — — — — — — the. Walker, H. H., and Winslow, C.-E. A., 1932, **24**, 209
— cycles, bacterial, some quantitative relationships in. Jennison, M. W., 1935, **30**, 603
Postage stamps, bacterial flora of. Keilty, R. A., and McMaster, P. D., 1916, **1**, 707, ab.
Postmortem bacteriology. Hunt, H. F., 1935, **30**, 654, ab.
— findings in guinea pigs inoculated with pure cultures of pathogenic anaerobic bacteria. Hall, I. C., 1928, **15**, 17, ab.
Potassium tellurate, diphtheria diagnosis by means of a blood serum containing. Shimer, W., 1916, **1**, 111, ab.
— — in differential media. Gilbert, R., and Humphreys, E. M., 1926, **11**, 141
Potato extract broth for typing *Diplococcus pneumoniae*. Larson, N., and Thompson, L., 1930, **19**, 33, ab.
— — stimulating effect on the butyric acid bacteria. Tatum, E. L., and Peterson, W. H., 1933, **25**, 26, ab.
— utilization as indicated by hydrogen peroxide. Güll, J., and Broadhurst, J., 1927, **13**, 4, ab.
Potency, comparison of methods for determination of as observed on a group of horses immunized against diphtheria. Leonard, G. F., 1931, **21**, 46, ab.
Precipitates, the effect of hydrogen ion concentration on the production of in a solution of peptone and its relation to the nutritive value of media. Kligler, I. J., 1917, **2**, 351
— equilibrium in the combination and the dissociation of. Weil, R., 1916, **1**, 255, ab.
— further studies on conditions influencing formation of. Gottlieb, S., and Downs, C. M., 1931, **21**, 47, ab.
— heating to facilitate measurement of. Broadhurst, J., 1924, **9**, 511
Precipitation reaction, characteristics of. Weil, R., 1916, **1**, 686, ab.
— studies with spinal fluid. Kahn, R. L., Malloy, A. M., and Westall, L., 1930, **19**, 35, ab.
Precipitin reaction. Composition of the precipitate and some factors influencing its formation. Downs, C. M., and Gottlieb, S., 1930, **19**, 37, ab.

Precipitin reaction. Conditions influencing the formation of precipitates. Gottlieb, S., and Downs, C. M., 1931, **21**, 47, ab.
— — effect of certain substances on. Downs, C. M., and Goodner, K., 1926, **11**, 106, ab.
— — in diagnosis of scarlet fever and allied hemolytic streptococcus infections. Rosenow, E. C., 1926, **11**, 112, ab.
— — — persons treated orally with bile and triple typhoid bacterin. Hoffstadt, R. E., and Thompson, R. L., 1929, **17**, 41, ab.
— — quantitative studies. Heidelberger, M., and Kendall, F. E., 1934, **27**, 90, ab.
— — poliomyelitis. Rosenow, E. C., 1926, **11**, 111, ab.
Preisz-Nocard, diphtheroid bacillus of. Hall, I. C., and Stone, R. V., 1916, **1**, 553, ab.
Preservation of bacteria in vacuo. Brown, J. H., 1932, **23**, 44, ab.
Preservative for biological products. Powell, H. M., and Jamieson, W. A., 1931, **21**, 55, ab.
Preservatives, effect on agglutinating serum. Noble, A., 1930, **19**, 31, ab.
— further observations on relation of pH value to toxicity for microorganisms. Cruess, W. V., and Irish, J. H., 1932, **23**, 163
Presumptive tests, validity of. Monfort, W. F., 1916, **1**, 113, ab.
Proctorrhea, Neisserian. Mapes, C. C., 1916, **1**, 579, ab.
prodigiosus, see Serratia
Propionic acid bacteria, activation of the lower fatty acids by. Stone, R. W., Wood, H. G., and Werkman, C. H., 1935, **30**, 652, ab.
— — — certain, fermentation of pentoses by. Foote, M., Peterson, W. H., and Fred, E. B., 1930, **19**, 17, ab.
— — — Classification. Werkman, C. H., and Brown, R. W., 1933, **26**, 393
— — — cultural study. Hitchner, E. R., 1932, **23**, 40, ab.
— — — dissimilation of glucose by. Wood, H. G., Stone, R. W., and Werkman, C. H., 1935, **29**, 84, ab.
— — fermentation, intermediary rôle of formaldehyde in. Wood, H. G., and Werkman, C. H., 1935, **30**, 652, ab.
— — bacteria, oxidation-reduction potential studies on. Stone, R. W., Wood, H. G., Erb, C., and Werkman, C. H., 1935, **29**, 86, ab.
— — — physiology and classification. Werkman, C. H., and Kendall, S. E., 1930, **19**, 18, ab.
— — — some physiological characteristics. Hitchner, E. R., 1934, **28**, 473
— — — utilization of CO_2 by, in dissimilation of glucose. Wood, H. G., and Werkman, C. H., 1935, **30**, 332, ab.
Prostatitis and spermatocystitis, chronic, bacteriology of. Culver, H. B., 1916, **1**, 261, ab.
— chronic, bacteriology of and localization in animals of organisms isolated. Nickel, A. C., 1926, **11**, 114, ab.
Proteases, bacterial. Relation of protease production to the culture medium. Wilson, E. D., 1930, **20**, 41
Protein, foreign, placental transmission of. Holford, F. E., 1926, **11**, 106, ab.
— precipitate, specific, in antipneumococcus horse serum, dissociation of, and a comparison with a protein isolated by chemical means from this immune serum. Felton, L. D., 1932, **23**, 105, ab.
— -free enzyme- and acid- digestion products, growth of bacteria in. Robinson, H. C., and Rettger, L. F., 1918, **3**, 209
Proteinase of *Aspergillus parasiticus*. Johnson, M. J., and Peterson, W. H., 1935, **29**, 90, ab.

Proteins and lipoids, serum, relation to non-specific complement fixation with normal rabbit and dog sera. Kolmer, J. A., 1916, **1**, 371, ab.
— bacterial, skin reactions excited by, in certain vasomotor disturbances of the upper air passages. Goodale, J. L., 1916, **1**, 368, ab.
— blood, syphilitic, characteristics of. Walton, S. T., 1935, **29**, 55, ab.
— decomposition of by microörganisms with particular reference to purified vegetable proteins. Waksman, S. A., and Starkey, R. L., 1932, **23**, 405
— food, immunological response following ingestion of, by normal infants. Lippard, V. W., 1935, **30**, 444, ab.
— mold, value of in diets. Skinner, C. E., 1934, **28**, 95
— nature of the volatile acid produced by *C. histolyticum* from. Sturges, W. S., Parsons, L. B., and Drake, E. T., 1929, **18**, 157
— staphylococcal, denaturation of. Krueger, A. P., and Nichols, V. C., 1935, **30**, 401
Proteolysis and the selective destruction of amino acids by *Clostridium sporogenes* and *Clostridium histolyticum*. Mead, M. W., Jr., and King, C. G., 1929, **17**, 151
— by bacteria, detection of. Frazier, W. C., 1926, **11**, 80, ab.
— — *Clostridium putrefaciens* compared with that of other anaerobes. Parsons, L. B., and Sturges, W. S., 1927, **14**, 181
Proteolytic action of certain lactic acid bacteria. Peterson, W. H., Pruess, L. H., and Fred, E. B., 1928, **15**, 165
— activities of soil microörganisms, with special reference to fungi. Waksman, S. A., 1918, **3**, 475
— bacteria of milk. Frazier, W. C., and Rupp, P., 1928, **15**, 29, ab.
— — — — Action on amino acids and other simple nitrogenous compounds. Frazier, W. C., and Rupp, P., 1928, **16**, 231
— — — — — — of on casein and gelatin. Frazier, W. C., and Rupp, P., 1928, **16**, 187
— — — — — — — — milk. Frazier, W. C., and Rupp, P., 1928, **16**, 65
— — — — — — — proteolytic bacteria on milk serum. Frazier, W. C., and Rupp, P., 1931, **21**, 263
— — — — Medium for direct isolation of caseolytic milk bacteria. Frazier, W. C., and Rupp, P., 1928, **16**, 57
— enzymes, bacterial: their activity at different pH values and the effect of sodium chloride. Spitzer, G., and Parfitt, E. H., 1930, **19**, 12, ab.
— — of certain anaerobes, on the growth and. Dernby, K. G., and Blanc, J., 1921, **6**, 419
— — — soil fungi and actinomycetes. Waksman, S. A., 1918, **3**, 509
Proteus bacteria, conditions affecting the production of gelatinase by. Merrill, A. T., and Clark, W. M., 1928, **15**, 267
— group of bacteria, systematic study of. Wenner, J. J., and Rettger, L. F., 1919, **4**, 331
— *hydrophilus*, experimental immunization against. Kulp, W. L., and Lackman, D., 1934, **27**, 86, ab.
— X19, pleo-antigenicity of a variant of. Welch, H., and Poole, A. K., 1934, **28**, 523
— -like organism, variable, fermenting carbohydrates without gas formation. Sears, H. J., and Rohner, M., 1933, **25**, 50, ab.
Protobacterial forms of *B. diphtheriae*. Smith, G. H., and Jordan, E. F., 1930, **20**, 25
Protozoa, flagellate, as etiologic factor of dysenteric diarrhea. Rhamy, B. W., and Metts, F. A., 1916, **1**, 581, ab.

Protozoa, method of separating fungi from bacteria and. Kopeloff, N., Lint, H. C., and Coleman, D. A., 1916, **1**, 373, ab.
— the relation of to certain groups of soil bacteria. Hills, T. L., 1916, **1**, 99, ab.
— relation of to certain groups of soil bacteria. Hills, T. L., 1916, **1**, 423
— soil, relationship to tubercle bacilli. Rhines, C., 1935, **29**, 369
— — studies on. Waksman, S. A., 1916, **1**, 561, ab.
— — — — the activity of. Koch, G. P., 1916, **1**, 679, ab.
— studies on soil, and their relation to the bacterial flora. Sherman, J. M., 1916, **1**, 35
— — — — — — — — — — — — Sherman, J. M., 1916, **1**, 98, ab.
— — — — — — — — — — — — Sherman, J. M., 1916, **1**, 165
Prozone phenomenon in specific bacterial agglutination. Jones, F. S., and Orcutt, M., 1934, **27**, 91, ab.
Pseudo-influenza, notes on an epidemic. Williams, W. W., and Burdick, W., 1916, **1**, 583, ab.
Pseudomonas *aeruginosa*, carbohydrate metabolism of. Sears, H. J., 1928, **15**, 11, ab.
— — — — — Sears, H. J., and Gourley, M. F., 1928, **15**, 357
— *fluorescens*, influence of on spore forming bacteria of soils. Lewis, I. M., 1929, **17**, 89
— *malvacearum*, value of serological tests for the identification of. Horgan, E. S., 1931, **22**, 287
— *pyocyanea*, effect of the reaction of the medium on the characteristics of. Stearn, E. W., and Stearn, A. E., 1933, **26**, 9
— — carbohydrate metabolism of. Sears, H. J., 1928, **15**, 11, ab.
— — — — — Sears, H. J., and Gourley, M. F., 1928, **15**, 357
— — chronic general infection with. Freeman, L., 1916, **1**, 698, ab.
— — keratitis, experimental. Jackson, E., and Hartman, F. W., 1926, **11**, 102, ab.
— and *B. radicicola*, evolution of *B. radiobacter* from mixed cultures of. Richmond, T. E., 1927, **13**, 43, ab.
Psittacosis, avian. Meyer, K. F., and Eddie, B., 1935, **29**, 67, ab.
Psoriasis, pathogenesis of. Cook, A. H., 1916, **1**, 696, ab.
Public health, relation of bacteriologist to. Zinsser, H., 1927, **13**, 147
pullora, see Bacterium
pullorum, see Bacterium
Pullorum disease in domestic fowls, serological diagnosis of: chemical nature and mechanism of the "cloudy" reaction. Valley, G., and Casman, E. P., 1930, **19**, 36, ab.
Pulmonary disease, spontaneous, in albino rat, etiology of. Smith, D. T., Bethune, N., and Wilson, J. L., 1930, **20**, 361
Pulp and paper mill slimes, formation by microörganisms. Sanborn, J. R., 1932, **23**, 70, ab.
— — — — systems, development and control of microörganisms in. Sanborn, J. R., 1933, **25**, 70, ab.
— — — — — — — — — — — — Sanborn, J. R., 1933, **26**, 373
— slime, bacteriology of. Beckwith, T. D., 1931, **22**, 15
Pupipara, certain blood-sucking, cultivation of Rickettsia-like microorganisms from. Kligler, I. J., and Aschner, M., 1931, **22**, 103
Pure culture, isolation of bacteria in from single cells. Ørskov, J., 1922, **7**, 537
— — study, methods of. Conn, H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N., 1919, **4**, 107
— — — — — Report of the committee on bacteriological technic. Conn, H. J., Atkins, K. N., Brown, H. J., Eberson, F., Harmon, G. E., Hucker, G. J., Tanner, F. W., and Waksman, S. A., 1922, **7**, 519

putrefaciens, see Clostridium
putrificum, see Clostridium
putrificus, see Clostridium
Pycnidium formation of *Plenodomus fuscomaculans*. Coons, G. H., 1916, **1**, 133, ab.
Pyelitis, chronic colon bacillus, treatment by pelvic lavage. Kretschmer, H. L., and Gaarde, F. W., 1916, **1**, 695, ab.
Pyelocystitis and metastatic abscesses following tonsillitis. Mills, H. B., and Sowell, G. A., 1916, **1**, 582, ab.
pyocyaneus, see Pseudomonas
Pyocaneus cultures, comparison of action of lytic agents and bacteriophages upon. Rabinowitz, G., 1934, **28**, 237
pyogenes, see Bacterium
Pyorrhoea alveolaris and apical abscesses, bacteriological study in relation to vaccine therapy. Krumwiede, C., Jr., and Pratt, J. S., 1916, **1**, 684, ab.
— — — its secondary systemic infections, treatment by mercury. Wright, B. D., 1916, **1**, 563, ab.
— — causes and treatment. Stewart, F. E., 1916, **1**, 455, ab.
— — dental aspect of relation to endamoeba. Price, W. A., 1916, **1**, 362, ab.
— — relation of amoebiasis to. Sanford, A. H., and New, G. B., 1916, **1**, 362, ab.
— — thionin as a diagnostic stain for. Dupray, M., 1916, **1**, 266, ab.
— alveolodental, *Endameba buccalis* in. Johns, F. M., 1916, **1**, 564, ab.
Pyridium, antiseptic and germicidal efficiency on various organisms. Proctor, B. E., 1931, **21**, 54, ab.
Pyruvic acid, fermentation by *Cl. acetobutylicum*. Peterson, W. H., and Johnson, M. J., 1933, **25**, 69, ab.

Q

Quantum mechanics, energy effects of antigen-antibody relationships according to. Stearn, A. E., 1935, **29**, 52, ab.
Quinin, treatment of human rabies with. Fielder, F. S., 1916, **1**, 579, ab.

R

R and S bacterial types of *B. paratyphosus B*, interconvertibility by homologous immune sera. Soule, M. H., 1928, **15**, 39, ab.
Rabbit serum, normal, effect of heat on in relation to antilytic complement fixation. Kolmer, J. A., and Trist, M. E., 1916, **1**, 371, ab.
— — — — — — — — — — — non-specific complement fixation. Kolmer, J. A., Trist, M. E., 1916, **1**, 371, ab.
— — — influence of splenectomy and anesthetics on non-specific complement fixation in. Kolmer, J. A., and Pearce, R. M., 1916, **1**, 370, ab.
— — — non-specific complement fixation by. Kolmer, J. A., and Trist, M. E., 1916, **1**, 369, ab.
— — — relation of serum lipoids and proteins to non-specific complement fixation with. Kolmer, J. A., 1916, **1**, 371, ab.
Rabbits, allergic, antibody production in. Behrens, C. A., 1930, **19**, 30, ab.
— chinchilla, use of for the titration of streptococcal toxin. Fraser, F. H., and Ross, M. A., 1932, **23**, 84, ab.
— species of *Treponema* found in. Zinsser, H., and Hopkins, J. G., 1916, **1**, 489
— young, infectious tympanitis, a new disease of. Morcos, Z., 1932, **23**, 449
Rabies, human, treatment with quinin and with phenol. Fielder, F. S., 1916, **1**, 579, ab.

Rabies, virus, cultivation of. Gurley, C. R., and Van Winkle, C. C., 1916, **1**, 697, ab.

Radiation, lethal, from the human body. Rahn, O., and Barnes, M. N., 1933, **25**, 28, ab.

— mitogenetic, as the cause of the influence of the number of organisms upon the lag period. Rahn, O., and Ferguson, A. J., 1933, **25**, 28, ab.

— — significance of the "induction effect" in. Rahn, O., and Tuthill, J. B., 1933, **25**, 27, ab.

radicicola, see Rhizobium

radiobacter, see Bacterium

Radium treatment, effect on the bacterial flora of the female genitalia. Pribram, E., and Schmitz, H., 1932, **23**, 107, ab.

Rapid method of counting bacteria in milk, comparison of with standard method. Frost, W. D., 1916, **1**, 103, ab.

Rash developing substances, formation of by scarlatinal hemolytic streptococci. Moriwaki, G., 1929, **18**, 139

Rat, albino, etiology of spontaneous pulmonary disease in. Smith, D. T., Bethune, N., and Wilson, J. L., 1930, **20**, 361

— leprosy, single cell dissociation of Mycobacterium of. Kahn, M. C., and Schwarzkopf, H., 1933, **25**, 157

— inheritance of resistance to the Danysz bacillus in. Irwin, M. R., 1928, **15**, 45, ab.

Rat-bite fever, cause of. Futaki, K., Takaki, E., Taniguchi, T., and Osumi, S., 1916, **1**, 259, ab.

— — etiology of. Blake, F. G., 1916, **1**, 259, ab.

— — — and treatment of. Tileston, W., 1916, **1**, 377, ab.

— — streptothrix in bronchopneumonia of rats similar to that in. Tunnicliff, R., 1916, **1**, 580, ab.

Ray fungi, remarks on the classification of. Thjøtta, T., and Gundersen, E., 1925, **10**, 1

Reactivity, local, to bacterial toxins. (A preliminary report.) Wadsworth, A., and Sickles, G. M., 1933, **25**, 80, ab.

Receptors, specific, of fixed tissues. Manwaring, W. H., and Kusama, Y., 1916, **1**, 686, ab.

Red pigment producing organism in corn mash of the acetone butyl alcohol fermentation. Fred, E. B., Peterson, W. H., and Carroll, W. R., 1925, **10**, 97

"Red-leg" disease of frogs, experimental immunization against. Kulp, W. L., and Lackman, D., 1934, **27**, 86, ab.

Reducing properties of microörganisms with special reference to selenium compounds. Levine, V. E., 1925, **10**, 217

Reduction potentials in bacterial cultures and their relation to anaerobiosis. Cohen, B., 1928, **15**, 16, ab.

Reflex, conditioned, typhoid agglutinins and. Kopeloff, N., Kopeloff, L. M., and Raney, M. E., 1933, **25**, 99, ab.

Refrigeration, discontinuous, effect on bacteria in foods. Prescott, S. C., Bates, P. K., and Needle, H. C., 1931, **21**, 25, ab.

— effects of upon the larvae of *Trichinella spiralis*. Ransom, B. H., 1916, **1**, 123, ab.

— temperatures, relation to the rate of growth of certain specific types of bacteria causing food spoilage. Prescott, S. C., and Bates, P. K., 1931, **21**, 25, ab.

Refrigerators, domestic, reduction of the number of organisms in water as a result of freezing in. Prescott, S. C., and Bates, P. K., 1931, **21**, 26, ab.

Relapsing fever in Serbia. Rudis-Jicinsky, J., 1916, **1**, 380, ab.

Relationship of the great groups of bacteria, the evolution and. Kligler, I. J., 1917, **2**, 165
Renal infection, ascending, lymphatics in. Eisendrath, D. N., and Kahn, J. V., 1916, **1**, 258, ab.
— — cases where bacteriophage was used therapeutically. Larkum, N. W., 1926, **12**, 203
Rennet production by bacteria, method of detecting. Conn, H. J., 1922, **7**, 447
Rennin action. Effect of rennin on sodium caseinate. Wahlin, J. G., 1928, **16**, 375
— — Rennin production by *Bacillus prodigiosus*. Wahlin, J. G., 1928, **16**, 355
— production by *Bacillus prodigiosus*. Gorini, C., 1930, **20**, 297
Reproduction, sexual dimorphic, in bacteria. Broadhurst, J., and Pease, D., 1931, **21**, 9, ab.
Research, efficiency in. Rogers, L. A., 1923, **8**, 197
Resorcinol, germicidal action of halogen derivatives of and its impairment by organic matter. Klarmann, E., Shternov, V. A., and von Wowern, J., 1929, **17**, 423
Respiration, bacterial, *Rhizobium*, influenced by reaction of medium. Thorne, D. W., and Walker, R. H., 1935, **29**, 76, ab.
— catalysts of, in *Escherichia acidilactici*. Blanchard, K. C., 1935, **30**, 442, ab.
— mechanism of, in Streptococci. Farrell, M. A., 1935, **29**, 10, ab.
— of *Rhizobium*, influence of reaction of medium on. Thorne, D. W., and Walker, R. H., 1935, **30**, 33
— — streptococci, mechanism of. Farrell, M. A., 1935, **29**, 411
— studies on Rhizobia from various leguminous plants. Georgi, C. E., Wilson, P. W., and Peterson, W. H., 1933, **25**, 53, ab.
Respiratory disease, acute, filter-passing anaerobic bacteria of the upper respiratory tract during. Burky, E. L., and Freese, H. L., 1931, **22**, 309
— — influence of anti-serum and of animal passage on virulence and electrophoresis of pneumococci. Jacobson, M. A., and Falk, I. S., 1927, **13**, 191
— — pathology of pneumococcus infections in mice. Pittman, M., and Southwick, M. A., 1930, **19**, 363
— — some relations between extracts, filtrates, and virulence of pneumococci. Pittman, M., and Falk, I. S., 1930, **19**, 327
— infections, epidemic of in Chicago, etiology of. Mathers, G., 1916, **1**, 259, ab.
— tract, effect of exposure to cold upon experimental infections of. Miller, J. A., and Noble, W. C., 1916, **1**, 683, ab.
— — permeability to old tuberculin. Clark, P. F., Middleton, W. S., and Wilson, O. M., 1929, **17**, 57, ab.
— — upper, filter-passing anaerobic bacteria of in health and during acute respiratory disease. Burky, E. L., and Freese, H. L., 1931, **22**, 309
Rheumatic fever, hemolytic streptococci and. Coburn, A. F., 1935, **29**, 39, ab.
— — treatment of. Robinson, B., 1916, **1**, 254, ab.
Rheumatism, acute, a streptothrix isolated from the blood in. Thjøtta, T., and Gunderson, E., 1925, **10**, 1
Rhizobia, effects of storage on. Reid, J. J., Fred, E. B., and Baldwin, I. L., 1935, **29**, 75, ab.
— from various leguminous plants, respiration studies on. Georgi, C. E., Wilson, P. W., and Peterson, W. H., 1933, **25**, 53, ab.

Rhizobia, growth and longevity of, on agar containing various energy sources. Reid, J. J., and Sarles, W. B., 1935, **30**, 651, ab.
— — factor for. Thorne, D. W., and Walker, R. H., 1935, **30**, 331, ab.
— — on rich nitrogenous media. Hofer, A. W., and Baldwin, I. L., 1932, **23**, 65, ab.
— rate of growth of. Cameron, G. M., and Sherman, J. M., 1935, **30**, 647
— statistical inquiry into methods for estimating numbers of. Wilson, P. W., and Kullmann, E. D., 1931, **22**, 71
— studies on classification and differentiation of. Sarles, W. B., McCaffrey, J. C., and Mickelson, M. N., 1935, **29**, 74, ab.
— symbiosis with legumes, moisture and. Hofer, A. W., 1935, **29**, 76, ab.
— variations of infective power among strains of. Baldwin, I. L., and Hofer, A. W., 1932, **23**, 66, ab.
— veal infusion as a medium for purity tests of cultures of. Hofer, A. W., 1933, **25**, 56, ab.
Rhizobium, aberrant cultures of. Almon, L., and Baldwin, I. L., 1932, **23**, 65, ab.
— changes in the viscosity of solution cultures induced by various species of. Anderson, D. A., and Walker, R. H., 1933, **25**, 54, ab.
— effect of nitrogen source upon oxygen consumption by. Walker, R. H., and Anderson, D. A., 1933, **25**, 53, ab.
— — — oxidizing and reducing agents on growth of in culture media. Allyn, W. P., and Baldwin, I. L., 1930, **19**, 9, ab.
— physiological studies on. Respiration and growth as influenced by the reaction of the medium. Thorne, D. W., and Walker, R. H., 1935, **30**, 33
— — — — Utilization of carbonaceous materials. Neal, O. R., and Walker, R. H., 1935, **30**, 173
— quantitative studies of three species of, in soils of different fertilizer treatment. Lochhead, A. G., and Thexton, R. H., 1935, **29**, 77, ab.
— respiration and growth of, as influenced by reaction of the medium. Thorne, D. W., and Walker, R. H., 1935, **29**, 76, ab.
— method of isolating cultures directly from the soil. Allen, O. N., and Baldwin, I. L., 1930, **19**, 38, ab.
— various strains of, effect of nitrate fertilization upon the relationship between the host plant and. Dunham, D. H., and Baldwin, I. L., 1930, **19**, 42, ab.
— stability of cultures of. Almon, L., and Baldwin, I. L., 1933, **26**, 229
— *japonicum* and *Rhizobium meliloti*, comparative growth rates. Walker, R. H., Anderson, D. A., and Brown, P. E., 1932, **23**, 67, ab.
— — isolated from various soils, study of. Wright, W. H., Sarles, W. B., and Holst, E. G., 1930, **19**, 39, ab.
— — some fermentation characteristics of various strains. Walker, R. H., and Brown, P. E., 1930, **19**, 41, ab.
— *legumenosum* Frank, viability of. Jones, D. H., 1927, **13**, 55, ab.
— *meliloti* and *Rhizobium japonicum*, comparative growth rates. Walker, R. H., Anderson, D. A., and Brown, P. E., 1932, **23**, 67, ab.
— — — *japonicum*, some fermentation characteristics of various strains. Walker, R. H., and Brown, P. E., 1930, **19**, 41, ab.
— — — *Rhizobium trifolii*, numbers of, in soils as affected by soil management policies. Walker, R. H., and Brown, P. E., 1935, **29**, 77, ab.
— — electrophoretic potential of. Tittsler, R. P., Lisse, M. W., and Ferguson, R. L., 1932, **23**, 481

Rhizobium, radicicola, evolution of *B. radiobacter* from mixed cultures of *Ps. radicicola* and. Richmond, T. E., 1927, **13**, 43, ab.
— — of Soja Max, grouping of different strains according to the bacteriostatic effect of the pararosanilin dyes. Wright, W. H., and Simington, R. M., 1927, **13**, 54
— *radicicolum Beijerinck*, viability of. Jones, D. H., 1927, **13**, 55, ab.
— *trifolii*, numbers in soil. Walker, R. H., and Brown, P. E., 1935, **29**, 77, ab.
— — strain variation in. Baldwin, I. L., and Fred, E. B., 1929, **17**, 17, ab.
rhizogenes, see Phytomonas
Rickettsia-like microörganisms, cultivation of from certain blood-sucking pupipara. Kligler, I. J., and Aschner, M., 1931, **22**, 103
rickettsi, see Dermacentrozenus
Ringworm of the scalp, demonstration of a mold isolated from the hair of children affected with. Pribram, E., 1930, **19**, 31, ab.
— vaccine for. Lavinder, C. H., 1916, **1**, 365, ab.
Rocks, ancient, living microörganisms in. Lipman, C. B., 1931, **22**, 183
— bacteria in Yellowstone Travertine. Lipman, C. B., 1935, **29**, 3, ab.
Rocky Mountain spotted fever. Michie, H. C., Jr., and Parsons, H. H., 1916, **1**, 260, ab.
— — — — causative agent of (*Dermacentrozenus rickettsi Wolbach*), functional and morphological changes in the life history of. Spencer, R. R., 1926, **13**, 42, ab.
— — — — etiology of. Wolbach, S. B., 1916, **1**, 378, ab.
— — wood tick (*Dermacentor andersoni*), isolation of strains of *Bact. tularense* of low virulence for guinea pigs and domestic rabbits from. Davis, G. E., Philip, C. B., and Parker, R. R., 1933, **25**, 87, ab.
Römer's intracutaneous method for the determination of small amounts of diphtheria antitoxin in blood sera, modification of. Zingher, A., 1916, **1**, 688, ab.
Root nodule bacteria, alfalfa, nature of the fat-like constituents of. Hopkins, E. W., and Peterson, W. H., 1930, **19**, 9, ab.
— — — composition of cells and gum. Hopkins, E. W., Fred, E. B., and Peterson, W. H., 1928, **15**, 22, ab.
— — — cow pea and soy bean, cross inoculation studies with. Sears, O. H., and Carroll, W. R., 1927, **13**, 55, ab.
— — — effect of plant passage on certain strains of. Allen, O. N., and Baldwin, I. L., 1929, **17**, 20, ab.
— — — legume, nomenclature of. Baldwin, I. L., and Fred, E. B., 1928, **15**, 8, ab.
— — — relation between electrophoresis and certain characteristics of. Zucker, F., 1929, **17**, 18, ab.
— — — of clover, strain variations in. Baldwin, I. L., and Fred, E. B., 1929, **17**, 17, ab.
— — — of legumes, certain fermentation products of. Anderson, J. A., Fred, E. B., and Peterson, W. H., 1927, **13**, 54, ab.
— — — — — — use of dyes in the isolation of, preliminary note. Batchelor, H. W., and Curie, I. H., 1927, **13**, 53, ab.
— — — — the leguminosae, gum produced by. Hopkins, E. W., Peterson, W. H., and Fred, E. B., 1929, **17**, 22, ab.
— — — — — — — nomenclature of. Baldwin, I. L., and Fred, E. B., 1929, **17**, 141
— — organism of *Dalea alopecuroides* (Wood's clover). Whiting, A. L., 1926, **11**, 93, ab.
— — — — lupinus. Eckhardt, M. McL., Baldwin, I. L., and Fred, E. B., 1931, **21**, 273

Root nodules, leguminous, nature of the infection thread in. McCoy, E., 1932, **23,** 46, ab.
— — of red clover, isolation of a bacteriolytic principle from. Hitchner, E. R., 1929, **17,** 19, ab.
— and microörganisms, association of. Thom, C., and Humfeld, H., 1932, **23,** 79, ab.
Rose bengal as a general bacterial stain. Conn, H. J., 1921, **6,** 253
Rosenbach's tuberculin, treatment of genito-urinary tuberculosis with. Hyman, A., 1916, **1,** 580, ab.
Rosenow streptococcus, filtrable forms from anterior poliomyelitis. Richardson, R. D., 1932, **23,** 29, ab.
Rosolic acid (CR) indicator, bactericidal action of. Bronfenbrenner, J., Schlesinger, M. J., and Soletsky, D., 1920, **5,** 79
rotans, see Bacillus

S

S and R types of *B. paratyphosus B*, interconvertibility by homologous immune sera. Soule, M. H., 1928, **15,** 39, ab.
Saccharophilic organisms, thermo-tolerant, as cause of "pin-point" colonies in bacteriological analysis of ice cream. Fay, A. C., 1926, **11,** 96, ab.
Saccharomyces aceris-sacchari, Fabian, dissociation of. Wickerham, L. J., and Fabian, F. W., 1935, **29,** 11, ab.
— *cerevisiae*, fermentation of galactose by. Söhngen, N. L., and Coolhass, C., 1924, **9,** 131
— *ellipsoideus*, thermal death point of. Aref, H., and Cruess, W. V., 1934, **27,** 443
Saline solutions, factors influencing the survival of bacteria in. Ballantyne, E. N., 1930, **19,** 303
Salmon, bacterial decomposition of. Hunter, A. C., 1920, **5,** 353
— canned, bacteriological study of. Fellers, C. R., 1926, **12,** 181
— decomposing, bacterial groups in. Hunter, A. C., 1920, **5,** 543
— — sources and characteristics of the bacteria in. Hunter, A. C., 1922, **7,** 85
Salmonella, see also *Bacterium*
— genus, decomposition of salts of organic acids by bacteria of. Hajna, A. A., 1935, **29,** 253
— species of, producing a water-soluble pigment. Deskowitz, M. W., and Buchbinder, L., 1935, **29,** 293
salmonicida, see Bacterium
Salt action. Additive and antagonistic effects of sodium and calcium chlorides upon the viability of *B. coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8,** 237
— — influence of calcium and sodium salts at various hydrogen ion concentrations upon the viability of *Bacterium coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8,** 215
— — stimulating and inhibitive effect of certain cations upon bacterial growth. Hotchkiss, M., 1923, **8,** 141
— effects in bacterial growth. Preliminary note. Holm, G. E., and Sherman, J. M., 1921, **6,** 511
— — — — — Salt effects in relation to the lag period and velocity of growth. Sherman, J. M., Holm, G. E., and Albus, W. R., 1922, **7,** 583
— — — — — The growth of *Bact. coli* in relation to H-ion concentration. Sherman, J. M., and Holm, G. E., 1922, **7,** 465
— preservative action in catsup. Pederson, C. S., and Breed, R. S., 1927, **13,** 59, ab.
— resistance of *Bacillus botulinus* and its spores to. Wyant, Z. N., and Normington, R., 1920, **5,** 553

Salt solutions, concentrated, effect on the thermo-death times of molds. Wallace, G. I., and Tanner, F. W., 1931, **21**, 32, ab.
— some effects on the morphology of *Bacillus megatherium*. Smith, O. A., 1933, **25**, 49, ab.
Salting, effect on the microbial heating of alfalfa hay. Stuart, L. S., and James, L. H., 1930, **19**, 53, ab.
Salts, certain inorganic, influence on the germicidal activity of hydrogen peroxide. Dittmar, H. R., Baldwin, I. L., and Miller, S. B., 1930, **19**, 203
— — simple non-nitrogenous, effect on growth of bacteria in soil. Conn, H. J., 1931, **21**, 35, ab.
— inorganic, influence on the multiplication of gonococcus. Miller, C. P., Jr., Hastings, A. B., and Castles, R., 1932, **24**, 439
Salvarsan in primary syphilis. Uhle, A. A., and Mackinney, W. H., 1916, **1**, 260, ab.
Sand, migration of bacteria through. Warren, S., and Mudd, S., 1924, **9**, 143
— tube in isolating *Bacillus typhosus*. Levy, M. D., 1916, **1**, 373, ab.
sanguinis hominis, see Filaria
Saponin, lysis of pneumococcus by. Klein, S. J., and Stone, F. M., 1931, **22**, 387
— solubility of pneumococcus in. II. Sensitization by ergosterol. Klein, S. J., 1933, **26**, 215
Saprophytic and secondary bacteria in the respiratory tracts of domestic fowl in infectious trachitis and in health, relation to agglutinins in the blood. Gibbs, C. S., 1931, **21**, 45, ab.; 97
Sarcina, genus, classification of. Pribram, E., 1933, **25**, 41, ab.
Sarcoma of chickens, filterable virus of. Furth, J., 1934, **27**, 79, ab.
Sauerkraut, commercial, quality of. Pederson, C. S., and Kelly, C. D., 1932, **23**, 62, ab.
— floral changes in fermentation of. Pederson, C. S., 1931, **21**, 36, ab.
— microörganisms of cabbage and their relation to production of. Keipper, C. H., and Fred, E. B., 1930, **19**, 53, ab.
— normal fermentation of. Round, L. A., 1916, **1**, 108, ab.
— pink, production of by yeasts. Fred, E. B., and Peterson, W. H., 1922, **7**, 257
Sausages, the bacterial examination of and its sanitary significance. Cary, W. E., 1916, **1**, 123, ab.
Scalp, ringworm of, demonstration of a mold isolated from the hair of children affected with. Pribram, E., 1930, **19**, 31, ab.
Scarlet fever, etiology of. Mallory, F. B., and Medlar, E. M., 1916, **1**, 377, ab.
— — immunization with toxin detoxified with sodium ricinoleate. Larson, W. P., 1926, **11**, 114, ab.
— — milk-borne, and its relation to beta hemolytic streptococci. Williams, A. W., Gurley, C. R., Sobel, E., and Castelda, M., 1932, **23**, 241
— — precipitin reaction in diagnosis of. Rosenow, E. C., 1926, **11**, 112, ab.
— — toxin. Orr, P. F., and Marshall, M. S., 1926, **11**, 113, ab.
— — variation in hemolytic streptococci from. Preliminary report. Spicer, S., Gonshorek, M. F., and Spicer, E. L., 1933, **26**, 505
Schizomycetes, classification of. Pribram, E., 1929, **18**, 366
— nomenclature and classification of. Buchanan, R. E., 1917, **2**, 155
— primary subdivisions of the. Studies in the nomenclature and classification of the bacteria. Buchanan, R. E., 1917, **2**, 155
schotmuelleri, see Bacterium
Schulte-Tigges and Ziehl-Neelsen methods of staining tubercle bacilli, comparison. Shoub, H. L., 1923, **8**, 121

Schumann rays, action of on living organisms. Bovie, W. T., 1916, **1**, 132, ab.
Scurf, sweet potato. Harter, L. L., 1916, **1**, 133, ab.
— of the sweet potato, or soil stain. Taubenhaus, L. J., 1916, **1**, 133, ab.
Sea bottom, bacteria in and their rôle in the cycle of elements in the sea. Waksman, S. A., and Reuszer, H. W., 1932, **23**, 42, ab.
— fate of fresh water bacteria in. Burke, V., and Baird, L. A., 1931, **21**, 287
— interchange of bacteria between fresh water and. Burke, V., 1934, **27**, 201
— rôle of bacteria in the cycle of elements in. Waksman, S. A., and Reuszer, H. W., 1932, **23**, 42, ab.
— water, influence of added organic substance on bacterial decomposition of organic matter in. Waksman, S. A., and Carey, C. L., 1935, **29**, 531
— — stored, bacterial decomposition of organic matter in. Waksman, S. A., and Carey, C. L., 1935, **29**, 531
Sedgwick, William Thompson. 1855–1921. Winslow, C.-E. A., 1921, **6**, 255
Seedbed, wheat, effect of time and depth of cultivation of upon bacterial activity in the soil. Gainey, P. L., 1916, **1**, 676, ab.
Selenium compounds, reducing properties of microörganisms with special reference to. Levine, V. E., 1925, **10**, 217
— — reduction of by sporulating anaerobes. Hall, I. C., 1926, **11**, 407
Sensitization, skin response as a measure of. Kahn, R. L., 1933, **25**, 81, ab.
Sensitized bacteria, immunization with. Swift, H. F., and Kinsella, R. A., 1916, **1**, 462, ab.
Sepsis, focal. Daland, J., 1916, **1**, 586, ab.
— oral, constitutional conditions caused by. Daland, J., 1916, **1**, 563, ab.
Septicemia, hemorrhagic, of fish. Belding, D. L., 1928, **15**, 48, ab.
— hemorrhagica (pasteurella) group of organisms. A study of five members (or so-called species) with special reference to their action on the various carbohydrates. Besemer, A. M., 1917, **2**, 177
Septicopyemia, subacute, microbic dissociation in vivo as illustrated by. Mellon, R. R., 1927, **13**, 99
septicum, see Clostridium
Sera, human, brucellar agglutinins in. Gray, J. D. A., 1933, **25**, 415
Serendipity. Rosenau, M. J., 1935, **29**, 91
Serobacterin therapeutics, intravenous. Robertson, W. E., 1916, **1**, 570, ab.
Serologic studies with *L. acidophilus* (Moro) and *L. bulgaricus* (Grigoroff). Upton, M. F., and Kopeloff, N., 1931, **21**, 51, ab.
Serological tests, value for the identification of *Pseudomonas malvacearum*. Horgan, E. S., 1931, **22**, 287
Serratia, genus, fermentation of glucose by. Pederson, C. S., and Breed, R. S., 1928, **15**, 10, ab.
— — — — — — — Pederson, C. S., and Breed, R. S., 1928, **16**, 163
— — type species of. (*Bacillus prodigiosus*). Breed, R. S., and Breed, M. E., 1924, **9**, 545
— *indica* Bergey. Breed, R. S., and Breed, M. E., 1926, **11**, 76, ab.
— *marcescens* Bizio (*Bacillus prodigiosus*), type species of the genus Serratia. Breed, R. S., and Breed, M. E., 1924, **9**, 545
— — influenced by ultraviolet and visible light. Duggar, B. M., and Hollaender, A., 1934, **27**, 219
— *prodigiosus*, rennin production by. Wahlin, J. G., 1928, **16**, 355
— — — — — — Gorini, C., 1930, **20**, 297
— — type species of the genus Serratia. Breed, R. S., and Breed, M. E., 1924, **9**, 545

Serum disease, development of immune reactions in. Longcope, W. T., and Rackemann, F. M., 1916, **1**, 461, ab.
— homologous immune, in microbic dissociation. Hadley, P., 1927, **13**, 40, ab.
— hyperimmune, for infectious abortion in mares. Good, E. S., and Smith, W. V., 1916, **1**, 568, ab.
— precipitation, potent, simple method of producing. Smith, W. V., 1916, **1**, 569, ab.
— so-called "normal" adult, antibody titer of compared with that of convalescent poliomyelitic serum. Brodie, M., 1932, **23**, 102, ab.
— syphilitic, precipitation with fractions of. Kendrick, P. L., and Kahn, R. L., 1926, **11**, 105, ab.
Sewage, bacteriophage content of and its action upon bacterial organisms. Beckwith, T. D., and Rose, E. J., 1930, **20**, 151
— Boston, grease and fertilizer base from. Weston, R. S., 1916, **1**, 457, ab.
— disinfected, delayed development of colonies on plates seeded from. Sturges, W. S., Jr., 1919, **4**, 157
— disinfection, efficiency of chlorine in as affected by certain environmental factors. Rudolfs, W., and Ziemba, J. V., 1934, **27**, 419
— disposal plant, bacteriological flora of. Hotchkiss, M., 1924, **9**, 437
— Eijkman test for determination of *Escherichia coli* in. Hajna, A. A., and Perry, C. A., 1935, **30**, 479
— investigation of, interpretation of *B. coli* test results on a numerical and comparative basis as applied to. Stein, M. F., 1919, **4**, 243
— plant, air diffusers tested at Milwaukee (Wis.). Hatton, T. C., 1916, **1**, 125, ab.
— purification, fate of *B. coli* and *B. aerogenes* in. Heukelekian, H., 1927, **14**, 55
— — of by aeration in the presence of activated sludge. Bartow, E., 1916, **1**, 111, ab.
— quantitative estimation of *E. typhi* in. Ruchhoft, C. C., 1935, **29**, 25, ab.
— sludge, digesting, effect of temperature on bacterial numbers in. Heukelekian, H., and Rudolfs, W., 1929, **17**, 247
— treatment, the activated sludge process of. Fowler, G. J., 1916, **1**, 251, ab.
— — activated sludge process, fundamental principles of. Halton, T. C., 1916, **1**, 250, ab.
Sexual reproduction, dimorphic, in bacteria. Broadhurst, J., and Pease, D., 1931, **21**, 9, ab.
Sexuality, primitive, (zygo-spore formation) in the colon-typhoid group. Mellon, R. R., 1925, **10**, 481
Shalots, imported canned, thermophilic microörganisms from. Prickett, P. S., 1931, **21**, 29, ab.
Shick test. Griswold, D. M., 1916, **1**, 573, ab.
— — determination of diphtheria immunity by. Park, W. H., and Zingher, A., 1916, **1**, 574, ab.
— — further observations on. Weaver, G. B., and Rappaport, B., 1916, **1**, 573, ab.
— — pseudoreaction in. Zingher, A., 1916, **1**, 573, ab.
— — use of diphtheria toxin in. Zingher, A., 1916, **1**, 367, ab.
Shigella, see Bacterium
Short answer questions in bacteriology examinations. Hunter, O., 1927, **13**, 70, ab.
Shwartzman phenomenon, bacterial filtrates and. Schwartzman, G., 1935, **29**, 30, ab.
— reaction, further studies on the meningococcus with special reference to. Powell, H. M., 1932, **23**, 98, ab.

Silage, A. I. V., bacteriological and chemical aspects of. Peterson, W. H., McClung, L. S., and Bird, H. R., 1935, **29**, 84, ab.
— acid-tolerant bacterium causing rotting of. Hastings, E. G., and Mansfield, H. L., 1927, **13**, 65, ab.
— bacteriology of, a contribution to the. Sherman, J. M., 1916, **1**, 445
— *Bacterium bulgaricus* in. Hunter, O. W., and Bushnell, L. D., 1916, **1**, 372, ab.
— colon-aerogenes group from. Hunter, O. W., 1917, **2**, 635
— corn, bacteria concerned in the ripening of. Heineman, P. G., and Hixson, C. R., 1921, **6**, 45
— grass, bacteriology of, contribution to. Demeter, K. J., 1930, **19**, 54, ab.
— mannitol-producing organisms in. Plaisance, G. P., and Hammer, B. W., 1921, **6**, 431
Silica gel plate, use for demonstrating occurrence and abundance of cellulose - decomposing bacteria. Waksman, S. A., and Carey, C., 1926, **12**, 87
Silkworms, a bacterial disease of. Glaser, R. W., 1924, **9**, 339
Silver, germicidal properties of minute amounts in water. Myers, R. P., and Mauer, J. C., 1935, **29**, 7, ab.
— preservation of fruit juices by. James, L. H., and Beavens, E. A., 1935, **29**, 73, ab.
Single cell isolation, a new and simplified micrurgical apparatus especially adapted to single cell isolation. Reyniers, J. A., 1932, **23**, 183
Sinus, accessory, treatment of infections of. MacWhinnie, A. M., 1916, **1**, 260, ab.
Sinusitis and sequelae, frontal and maxillary, due to *Staphylococcus pyogenes albus*. Opdyke, R., 1916, **1**, 252, ab.
Skatol, bacteriostatic effect of. Sandholzer, L. A., and Tittsler, R. P., 1934, **27**, 28, ab.
— determination in bacterial cultures. Fellers, C. R., and Clough, R. W., 1925, **10**, 105
Skin diseases, autoserum injections in. Gottheil, W. S., 1916, **1**, 570, ab.
— — progress in the treatment of. MacKee, G. M., 1916, **1**, 253, ab.
— normal and pathologic, intradermal reactions to emulsions of. Stokes, J. H., 1916, **1**, 691, ab.
— — human, variability of the germicidal action of. Hill, J. H., and White, E. C., 1932, **23**, 107, ab.
— reaction, allergic, to diphtheria bacilli. Kolmer, J. A., 1916, **1**, 365, ab.
— reactions excited by bacterial proteins in vasomotor disturbances of the upper air passages. Goodale, J. L., 1916, **1**, 368, ab.
— — following intradermal injections of vaccines prepared from intestinal bacteria. Preliminary report. Famulener, L. W., and Davis, J. S., 1930, **19**, 29, ab.
— — in man, comparison of tuberculin O. T., human tubercle bacillus protein MA 100, and Timothy bacillus protein MA 100. Huntoon, F. M., Funk, E. H., and White, H., 1931, **21**, 57, ab.
— reactive antigens of the tubercle bacillus, relation between the complement fixation and. Abadjieff, B., 1926, **12**, 355
— reactivity, local, to *B. typhosus* culture filtrate, effect of specific sera upon. Shwartzman, G., 1929, **17**, 43, ab.
— — — — — various bacterial culture filtrates. A review. Shwartzman, G., 1931, **21**, 56, ab.
— — — — variations in neutralizability of meningococcus toxins as measured by. Shwartzman, G., 1932, **23**, 95, ab.

Skin response as a measure of immunization and sensitization. Kahn, R. L., 1933, **25**, 81, ab.
Slime-forming microörganisms, utilization of. Sanborn, J. R., 1934, **27**, 61, ab.
Slimes, pulp and paper mill, formation by microörganisms. Sanborn, J. R., 1932, **23**, 70, ab.
Sludge, activated, experiences with Chicago stockyard sewage. Lederer, A., 1916, **1**, 457, ab.
— — purification of sewage by aeration in the presence of. Bartow, E., 1916, **1**, 111, ab.
— — winter experience with the process at Milwaukee. Copeland, W. R., 1916, **1**, 457, ab.
— digestion, bacterial population during. Ruchhoft, C. C., Kallas, J. G., and Edwards, G. P., 1930, **19**, 269
— quantitative estimation of *E. typhi* in. Ruchhoft, C. C., 1935, **29**, 25, ab.
Smallpox, etiology and laboratory diagnosis of. Force, J. N., 1916, **1**, 581, ab.
— suspected case, laboratory examination of material in. Force, J. N., 1916, **1**, 580, ab.
smegmatis, see Mycobacterium
Smith, Erwin Frink. 1854–1927. Jones, L. R., and Rand, F. V., 1928, **15**, 1
— Theobald, (biographical). Brown, J. H., 1935, **30**, 1
Smoke-curing of fish, bactericidal action of. Hess, E., 1928, **15**, 33, ab.
Soap. Dickinson, G. K., 1916, **1**, 364, ab.
— solutions, specific resistance of bacteria to. Prescott, S. C., and Riley, P. L., 1927, **13**, 66, ab.
Soaps, pure, effect on the bactericidal properties of phenolic germicides. Hampil, B., 1928, **16**, 287
Society of American Bacteriologists, activities of central New York State branch. Tittsler, R. P., 1935, **30**, 446, ab.
— — — — local branches of. Conn, H. J., 1935, **30**, 446, ab.
Society, our. Harrison, F. C., 1922, **7**, 149
— — in retrospect and prospect. Harris, N. MacL., 1926, **11**, 153, ab.
Sodium benzoate, effect of hydrogen ion concentration on the toxicity of to microörganisms. Cruess, W. V., and Richert, P. H., 1929, **17**, 363
— — — upon certain yeasts. Tanner, F. W., and Strauch, L. B., 1926, **11**, 99, ab.
— caseinate, description of an organism found in. Gahl, R., 1928, **16**, 35
— — effect of rennin on. Wahlin, J. G., 1928, **16**, 375
— chloride, effect on viability of *B. coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8**, 237
— — media for the separation of certain Gram-positive cocci from Gram-negative bacilli. Hill, J. H., and White, E. C., 1929, **18**, 43
— — in culture media for the separation of certain Gram-positive cocci from Gram-negative bacilli. Hill, J. H., and White, E. C., 1929, **17**, 47, ab.
— — data on toxicity of ions toward *Endothia parasitica*. Meacham, M. R., Hopfield, J. H., and Acree, S. F., 1920, **5**, 309
— — effect on activity of bacterial proteolytic enzymes. Spitzer, G., and Parfitt, E. H., 1930, **19**, 12, ab.
— — influence on the colorimetric determination of pH. Parsons, L. B., and Douglas, W. F., 1926, **11**, 80, ab.
— — — — colorimetric determination of pH. Parsons, L. B., and Douglas, W. F., 1926, **12**, 263
— — — — growth and metabolism of yeast. Speakman, H. B., Gee, A. H., and Luck, J. M., 1928, **15**, 319
— — — upon the growth curve of bacteria in various media. Winslow,

C.-E. A., Walker, H. H., and Sutermeister, M., 1932, **24**, 185
Sodium disecondary butyl naphthalene sulphonate, growth of *Mycobacterium smegmatis* under action of. Katz, J., and Lipsitz, A., 1935, **30**, 419
— hippurate, hydrolysis of by the hemolytic streptococci. Edwards, P. R., and Broh-Kahn, R., 1934, **27**, 535
— hydroxide, germicidal efficiency of. McCulloch, E. C., 1933, **25**, 469
— influence of various anions in combination with on bacterial viability. Fabian, F. W., and Winslow, C.-E. A., 1929, **18**, 265
— malonate, fermentation of as a means of differentiating Aerobacter and Escherichia. Liefson, E., 1933, **26**, 329
— oleate, pneumococcidal powers of. Barnes, L. A., and Clarke, C. M., 1934, **27**, 107, ab.
— ricinoleate, action upon bacteria. Kozlowski, A., 1928, **16**, 203
— — effect of as a surface depressant upon growth of *B. coli*. Albus, W. R., 1927, **13**, 7, ab.
— — — on the gonococcus. Miller, C. P., Jr., and Castles, R., 1931, **22**, 339
— — immunization against diphtheria and scarlet fever with toxins detoxified with. Larson, W. P., 1926, **11**, 114, ab.
— — pneumococcidal powers of. Barnes, L. A., and Clarke, C. M., 1934, **27**, 107, ab.
— salts at various hydrogen ion concentrations, influence upon viability of *B. coli*. Winslow, C.-E. A., and Falk, I. S., 1923, **8**, 215
— — of organic acids, utilization of nitrogenous organic compounds and by certain soil algae in darkness and in the light. Skinner, C. E., and Gardner, C. G., 1930, **19**, 161
Soil, acid, practical method for determining the number of *Clostridium butyricum* colonies in. Batchelor, H. W., and Curie, I. H., 1929, **17**, 25, ab.
— actinomyces of the. Waksman, S. A., and Curtis, R. E., 1916, **1**, 558, ab.
— are spore forming bacteria of any significance in under normal conditions? Conn, H. J., 1916, **1**, 187
— bacteria, media for. Noyes, H. A., 1916, **1**, 93, ab.
— — non-spore-forming, of peculiar morphology. Conn, H. J., 1926, **11**, 92, ab.
— — relation of protozoa to certain groups of. Hills, T. L., 1916, **1**, 99, ab.; 425
— bacteriological analysis, sources of error in. Lint, H. C., and Coleman, D. A., 1916, **1**, 675, ab.
— biology, comparison of field with laboratory experiments. Koch, G. P., 1916, **1**, 675, ab.
— case of local microbiological activity in. Smith, N. R., and Humfeld, H., 1930, **19**, 43, ab.
— characteristics of coli-like microörganisms from the. Johnson, B. R., and Levine, M., 1917, **2**, 379
— coli-like organisms of the. Johnson, B. R., 1916, **1**, 96, ab.
— correlation study of the colon-aerogenes group, with special reference to the organisms occurring in the. Chen, C. C., and Rettger, L. F., 1920, **5**, 253
— decomposition of celluloses in, microorganisms concerned in. Waksman, S. A., and Skinner, C. E., 1926, **12**, 57
— deficiency, soil plaque *Azotobacter* test for. Jones, D. H., 1932, **23**, 77, ab.
— distribution of *Dictyostelium* and other slime molds in. Thom, C., and Raper, K., 1932, **23**, 80, ab.

Soil, effect of certain simple non-nitrogenous salts on the growth of bacteria in. Conn, H. J., 1931, **21**, 35, ab.
— — — grinding on the number of microörganisms. Fred, E. B., 1916, **1**, 675, ab.
— essential food substances in. Sanborn, J. R., 1927, **13**, 113
— flora, general. Conn, H. J., 1927, **13**, 51, ab.
— — some effects of leaching on. Lipman, C. B., and Fowler, L. W., 1916, **1**, 553, ab.
— — studies. Conn, H. J., 1917, **2**, 35, 137
— frozen, occurrence of bacteria in. Harder, E. C., 1916, **1**, 555, ab.
— fungi and actinomycetes, proteolytic enzymes of. Waksman, S. A., 1918, **3**, 509
— — — their activities. Waksman, S. A., 1916, **1**, 679, ab.
— — incubation studies with. Waksman, S. A., 1916, **1**, 555, ab.
— — inoculation and incubation of. Kopeloff, N., 1916, **1**, 557, ab.
— — of, counting method. Waksman, S. A., 1922, **7**, 339
— influence of solution on the longevity of microörganisms subjected to desiccation. Giltner, W., and Langworthy, V., 1916, **1**, 96, ab.
— Lactobacilli of. Hunt, G. A., and Rettger, L. F., 1930, **20**, 61
— method of isolating cultures of *Rhizobium spp.* directly from. Allen, O. N., and Baldwin, I. L., 1930, **19**, 38, ab.
— microbes, morphological relationships. Vandecaveye, S. C., and Villanueva, B. R., 1934, **27**, 257
— microörganisms, humus as a source of energy for, and for the energy liberated by their activity. Van Suchtelen, F. H., 1931, **21**, 33, ab.
— — proteolytic activities of. Waksman, S. A., 1918, **3**, 475
— — use of dyes in media for identification of. Batchelor, H. W., and Curie, I. H., 1927, **13**, 53, ab.
— — various, effect on tubercle bacilli. Rhines, C., 1934, **27**, 56, ab.
— nitrogen transformations in presence of ammonium sulphocyanate. Skinner, C. E., and Sandhoff, A., 1935, **29**, 79, ab.
— organic matter, nature of and rôle of microörganisms in its formation and decomposition. Waksman, S. A., 1927, **13**, 50, ab.
— oxidation of sulfur in, microörganisms concerned in. Introductory. Waksman, S. A., 1922, **7**, 231
— — — — — — — — — A solid medium for the isolation and cultivation of *Thiobacillus thiooxidans*, 1922, **7**, 605
— — — — — — — — — *Thiobacillus thiooxidans*, a new sulfur-oxidizing organism isolated from the soil. Waksman, S. A., and Joffe, J. S., 1922, **7**, 239
— persistence of avian tubercle bacilli in. Rhines, C., 1935, **29**, 299
— physical factors affecting the determination of the number of nitrogen fixing bacteria in. Batchelor, H. W., 1933, **25**, 57, ab.
— possible function of actinomycetes in. Conn, H. J., 1916, **1**, 93, ab.; 197
— processes, biological, the oxygen requirements of. Murray, T. J., 1916, **1**, 597
— reaction, effect on ammonification by certain soil fungi. Kopeloff, N., 1916, **1**, 675, ab.
— — of the soil solution as an index of biological changes in the. Morgan, J. F., and Gruzit, O. M., 1916, **1**, 97, ab.
— samples, detection of *B. tetani* and *B. botulinus* in by the constricted tube method. Hall, I. C., and Peterson, E. C., 1924, **9**, 201

Soil, soil solution as an index of biological changes in. Morgan, J. F., 1916, **1**, 97, ab.
— some factors influencing the longevity of soil microörganisms subjected to desiccation, with special reference to soil solution. Giltner, W., and Langworthy, H. V., 1916, **1**, 123, ab.
— — influences of the development of higher plants upon the abundance and activities of microörganisms in. Starkey, R. L., 1929, **17**, 26 ab.
— spore-bearing bacteria in. Laubach, C. A., and Rice, J. L., 1916, **1**, 513
— stain, or scurf of the sweet potato. Taubenhaus, L. J., 1916, **1**, 133, ab.
— sterilization of without radical alteration. Coleman, D. A., Lint, H. C., and Kopeloff, N., 1916, **1**, 560, ab.
— subjected to different types of cropping for twenty-five years, bacteriological studies of. Gainey, P. L., and Gibbs, W. W., 1916, **1**, 678, ab.
— treatments, the indirect effect of certain upon bacterial activity. Gainey, P. L., 1916, **1**, 98, ab.
— use of microscope in studying activities of bacteria in. Conn, H. J., 1929, **17**, 23, ab.; 399
Soils, acid, nitrate formation in. Fred, E. B., and Graul, E. J., 1916, **1**, 558, ab.
— bacteria, actinomyces and fungi in. Waksman, S. A., 1916, **1**, 101, ab.
— bacterial numbers in at different depths and at different seasons of the year. Waksman, S. A., 1916, **1**, 556, ab.
— cellulose in, decomposition of. McBeth, I. G., 1916, **1**, 557, ab.
— description of *B. pasteuri* strains from. Gibson, T., 1934, **28**, 295
— effects of climate on important properties of. Lipman, C. B., and Waynick, D. D., 1916, **1**, 562, ab.
— ferrification in. Brown, P. E., and Corson, G. E., 1916, **1**, 95, ab.
— Hawaiian, *Azotobacter* in. Burgess, P. S., 1916, **1**, 676, ab.
— incubated, recurrent periodism of nitrogen fixation and denitrification in. Batchelor, H. W., and Curie, I. H., 1930, **19**, 42, ab.
— influence of *Pseudomonas fluorescens* on spore forming bacteria of. Lewis, I. M., 1929, **17**, 89
— Iowa, occurrence and distribution of *Azotobacter* in. Martin, W. P., and Walker, R. H., 1935, **30**, 332, ab.
— nitrate accumulation in following the growth of crops. Lyon, T. L., 1927, **13**, 50, ab.
— oxidation of sulfur in as a means of increasing the availability of mineral phosphates. Lipman, J G., McLean, H. C., and Lint, H. C., 1916, **1**, 678, ab.
— quantitative media for estimation of bacteria in. Cook, R. C., 1916, **1**, 100, ab.; 554, ab.
— relation between certain bacterial activities in and their crop-producing power. Browne, P. E., 1916, **1**, 124, ab.
— serpentine, bacterial flora of. Lipman, C. B., 1926, **12**, 315
— two acid, preliminary bacteriological studies on. Smith, N. R., and Humfeld, H., 1929, **17**, 24, ab.
— various, *Rhizobium japonicum* isolated from. Wright, W. H., Sarles, W. B., and Holst, E. G., 1930, **19**, 39, ab.
Sonne, see Bacterium dysenteriae
— dysentery. Nelson, R. L., 1930, **20**, 183
Sorbitol, fermentation of by hemolytic streptococci from various sources. Plummer, H., 1934, **27**, 465
sordelli, see Clostridium

Sore throat, milk-borne septic, and its relation to beta hemolytic streptococci. Williams, A. W., Gurley, C. R., Sobel, E., and Castelda, M., 1932, **23**, 241
— — septic, beta hemolytic streptococci associated with epidemics of. Hucker, G. J., 1935, **30**, 445, ab.
— — — of milk origin, present status of bacteriology and epidemiology. Davis, D. J., 1932, **23**, 87, ab.
Sound, intense audible, comparative antigenic studies on egg albumin denatured by. Flosdorf, E. W., and Chambers, L. A., 1934, **27**, 92, ab.
— waves, high frequency, destruction of luminous bacteria by. Harvey, E. N., and Loomis, A. L., 1929, **17**, 373
Soy bean and cow pea root nodule bacteria, cross inoculation studies. Sears, O. H., and Carroll, W. R., 1927, **13**, 55, ab.
— — organisms, nitrate production by. Leonard, L. T., 1929, **17**, 19, ab.
— — effect of fertilizers on. Batchelor, H. W., and Curie, I. H., 1928, **15**, 22, ab.
— — yield and nitrogen content as affected by inoculation. Lipman, J. G., and Blair, A. W., 1916, **1**, 677, ab.
Species, bacterial, preliminary report of the committee on the chart for identification of. Conn, H. J., Harding, H. A., Kligler, I. J., Frost, W. D., Prucha, M. J., and Atkins, K. N., 1918, **3**, 115
— new bacterial, isolated from strawberries. Smart, H. F., 1932, **23**, 41, ab.
Specificity, antivenin. Do Amaral, Afranio, 1927, **13**, 48, ab.
Spermatocystitis and prostatitis, chronic, bacteriology of. Culver, H. B., 1916, **1**, 261, ab.
Spices, inhibiting effect on the growth of microörganisms. Bachmann, F. M., 1916, **1**, 704, ab.
— study of the effect of on the growth of certain organisms. Bachmann, F. M., 1916, **1**, 109, ab.
Spinal fluid, precipitation studies with. Kahn, R. L., Malloy, A. M., and Westall, L., 1930, **19**, 35, ab.
— — Kahn reaction with. Kahn, R. L., McDermott, E., and Lubin, G., 1929, **17**, 50, ab.
Spiral bodies in bacterial cultures. Florence, L., 1921, **6**, 371
Spirella sp.? isolated from a guinea pig. Rhees, H. S., 1932, **23**, 211
Spirillaceae, nomenclature and classification of. Buchanan, R. E., 1918, **3**, 175
— subdivisions and genera of. Buchanan, R. E., 1918, **3**, 175
Spirillum virginianum nov. spec. Dimitroff, V. T., 1926, **12**, 19
Spirochaeta hyos, antigenic value in complement fixation tests with hog cholera sera. King, W. E., and Drake, R. H., 1916, **1**, 114, ab.
— — Its value in the complement fixation tests on hog cholera sera. Studies on hog cholera. King, W. E., and Drake, R. H., 1916, **1**, 114, ab.
— *icterohaemorrhagiae* (Inada), pure cultivation of. Ito, T., and Matsuzaki, H., 1916, **1**, 464, ab.
— *pallida* derived from the paretic brain, cultural experiments. Wile, U. J., and DeKruif, P. H., 1916, **1**, 258, ab.
Spirochaetales, nomenclature and classification of. Buchanan, R. E., 1918, **3**, 541
— subgroups and genera of. Buchanan, R. E., 1918, **3**, 541
Spirochaetes in Baltimore market oysters. Dimitroff, V. T., 1926, **12**, 135
— of termites. Damon, S. R., 1926, **11**, 31

Spirochaetes, application of Weiss' flagella method for staining. Weiss, E., 1929, **17**, 61, ab.
— distribution in tissue. Pilot, I., 1926, **11**, 114, ab.
— presence in the mouths of groups of young adults. Hotchkiss, M., 1931, **21**, 44, ab.
Spirochaetosis icterohaemorrhagica. The etiology, mode of infection, and specific therapy of Weil's disease. Inda, R., Ido, Y., Hoki, R., Kaneko, R., and Ito, H., 1916, **1**, 379, ab.
Spleens, human, removed by surgical operation, bacterial cultures of. Sellards, A. W., 1916, **1**, 589, ab.
Splenectomy and anesthetics, influence on non-specific complement fixation by normal rabbit and dog sera. Kolmer, J. A., and Pearce, R. M., 1916, **1**, 370, ab.
Spoilage, bacterial, of thousand island dressing. Pederson, C. S., 1930, **20**, 99
— food, relation of refrigeration temperatures to the rate of growth of certain specific types of bacteria causing. Prescott, S. C., and Bates, P. K., 1931, **21**, 25, ab.
Sporangia. Broadhurst, J., 1934, **27**, 48, ab.
Spore-bearing bacteria, anaerobic, hydrogen sulphide production by. Kahn, M. C., 1925, **10**, 439
— — classification. Ford, W. W., 1916, **1**, 527
— — decomposition products of in heated milk. Lisk, H., 1924, **9**, 1
— — in dust. Laubach, C. A., 1916, **1**, 493
— — — milk. Lawrence, J. S., and Ford, W. W., 1916, **1**, 277
— — — soil. Laubach, C. A., and Rice, J. L., 1916, **1**, 513
— non-pathogenic bacteria, aerobic, studies on. Part I. Introduction. Ford, W. W., 1916, **1**, 273
— organisms in water. Laubach, C. A., 1916, **1**, 505
Spore formation in *B. megatherium* as shown by motion pictures. Bayne-Jones, S., and Petrilli, A., 1932, **23**, 45, ab.
— -formers, thermophilic, associated with milk. Prickett, P. S., 1929, **17**, 36, ab.
—— -forming anaerobic bacteria, morphological, cultural, and biochemical study. Reddish, G. F., and Rettger, L. F., 1924, **9**, 13
— bacteria of soils, influence of *Pseudomonas fluorescens* on. Lewis, I. M., 1929, **17**, 89
— — significance in soil under normal conditions. Conn, H. J., 1916, **1**, 187
— — thermophilic, bacteriostatic effect of gentian violet on. Cameron, E. J., 1930, **19**, 52, ab.
— — — in pasteurized milk. Breed, R. S., Prickett, P. S., and Yale, M. W., 1929, **17**, 37, ab.
— organism, bacteriophagy of. Cowles, P. B., 1930, **20**, 15
Spore germination, influence of osmotic pressure. Curran, H. R., 1931, **21**, 197
— suspensions, heated, recovery of bacteriophage from filtrates derived from. Cowles, P. B., 1931, **22**, 119
Spores, bacterial. Leifson, E., 1931, **21**, 331
— — differential staining as criterion of viability of. Matthewman, H. B., 1927, **14**, 425
— — enzymic content of. Ruehle, G. L. A., 1923, **8**, 487
— — factors influencing heat resistance. Williams, O. B., 1929, **17**, 16, ab.
— — influence of surface tension upon germination. Curran, H. R., 1931, **21**, 211
— — Study in heat resistance and dormancy. Morrison, E. W., and Rettger, L. F., 1930, **20**, 299

Spores, bacterial. Study of bacterial spore germination in relation to environment. Morrison, E. W., and Rettger, L. F., 1930, **20**, 313
— — influence of some environmental factors upon the thermal resistance. Curran, H. R., 1934, **27**, 26, ab.
— — Physiology of spore production in *B. mycoides*. Brunstetter, B. C., and Magoon, C. A., 1931, **21**, 33, ab.
— — survivor curves exhibited by in chlorine disinfection. Charlton, D. B., and Levine, M., 1934, **27**, 37, ab.
— — Thermal resistance as affected by age and environment. Magoon, C. A., 1926, **11**, 253
— *Cl. botulinum*, effect of freezing on. James, L. H., 1932, **23**, 47, ab.
— germinating, development of flagella on. Leifson, E., 1931, **21**, 357
— of thermophilic bacteria, "natural" or "normal" resistance of. Cameron, E. J., 1931, **21**, 31, ab.
— living and dead bacterial, differential staining of. Koser, S. A., and Mills, J. H., 1925, **10**, 25
— studies on. Contribution to the physiology of spore production in *Bacillus mycoides*. Brunstetter, B. C., and Magoon, C. A., 1932, **24**, 85
sporogenes, see Clostridium
Sporogenesis, aerobic, influence of cations on in a liquid medium. Fabian, F. W., and Bryan, C. S., 1933, **26**, 543
— bacterial, in a liquid medium, influence of cations on. Fabian, F. W., and Bryan, C. S., 1933, **25**, 33, ab.
Spotted fever, Rocky Mountain. Michie, H. C., Jr., and Parsons, H. H., 1916, **1**, 260, ab.
— — — — causative agent of (*Dermacentroxenus rickettsi* (Wolbach), functional and morphological changes in the life history of. Spencer, R. R., 1926, **13**, 42, ab.
— — — — etiology of. Wolbach, S. B., 1916, **1**, 378, ab.
— — — — typhus group in the United States. Rumreich, A., 1932, **23**, 104, ab.
Sprue, further experimentation in animals with a monilia commonly found in. Ashford, B. K., 1916, **1**, 467, ab.
Sputum, controlling the spread of. Manheimer, W. A., 1916, **1**, 579, ab.
— cultures with subsequent complement fixation control. Williams, W. W., and Burdick, W., 1916, **1**, 690, ab.
— failure of mouse test to demonstrate type-I pneumococcus in. Gilbert, R., and Davenport, C. K., 1927, **13**, 35, ab.
Sputums, detection of tubercle bacilli in, use of Bordet-Gengou and Löwenstein's media as a substitute for guinea-pig inoculation in. Mishulow, L., Romano, M., Melman, M., and Kereszturi, C., 1934, **27**, 103, ab.
Stables, cow, number of bacteria in the air of. Ruehle, G. L. A., 1916, **1**, 112, ab.
Stain, bacteriological, mercurochrome as. Conklin, M. E., 1934, **27**, 30, ab.
— differential, for milk examination. Broadhurst, J., and Long, M. A., 1932, **23**, 57, ab.
Staining, differential, of Gram-positive and Gram-negative bacteria in tissue sections. Brown, J. H., and Brenn, L., 1931, **21**, 21, ab.
— — and Gram stain. Kaplan, M. L., and Kaplan, L., 1933, **25**, 309
— — as criterion of viability of bacterial spores. Matthewman, H. B., 1927, **14**, 425
— — of living and dead bacterial spores. Koser, S. A., and Mills, J. H., 1925, **10**, 25

Staining, mechanism of, bearing of nature of Gram compound on. Stearn, A. E., and Stearn, E. W., 1930, **20**, 287
— rationalization, from the viewpoint of physical chemistry, of the behavior of bacteria toward dyes, with special reference to. Stearn, A. E., 1933, **25**, 21, ab.
— reactions, differentiation of living from dead bacteria by. Gay, F. P., and Clark, A. R., 1934, **27**, 175
— technic, modification in. Northrup, Z., 1916, **1**, 91, ab.
— capsules of bacteria, a simple method for. Huntoon, F. M., 1917, **2**, 241
Stains, American, investigation of. Conn, H. J., *chairman*, 1922, **7**, 127
— biological, standardization of. Conn, H. J., 1929, **17**, 17, ab.
Staphylococci, coagulase and hemolysin tests as measures of the pathogenicity of. Chapman, G. H., Berens, C., Peters, A., and Curcio, L., 1934, **28**, 343
— crystal violet agar as a differential medium for. Chapman, G. H., and Berens, C., 1935, **29**, 437
— denaturation of proteins of. Krueger, A. P., and Nichols, V. C., 1935, **30**, 401
— effects of light and drying upon. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.
— growth requirement of. Hughes, T. P., 1932, **23**, 437
— use of "specific wet dressings" of according to the method of Besredka. Barnes, LaV., 1929, **17**, 41, ab.
— white and orange, classification of. Winslow, C.-E. A., Rothberg, W., and Parsons, E. I., 1920, **5**, 145
Staphylococcus cultures lysed by bacteriophage, quantitative study of respiration. Eaton, M. D., Jr., 1931, **21**, 143
— encapsulated, dissociation in. Gilbert, I., 1931, **21**, 157
— infections, bacteriophage therapy of. Colvin, M. G., 1935, **30**, 446, ab.
— serum, artificially produced bacteriophagic anti-, adaptation of staphylococcus bacteriophage to. Rakieten, M. L., 1934, **27**, 50, ab.
Staphylococcus albus and *aureas*, genetic origin from common ancestral strains. Mellon, R. R., and Caldwell, D. W., 1926, **12**, 409
— — microbic heredity and genetic origin of. Mellon, R. R., and Caldwell, D. W., 1926, **12**, 409
— *aureus* and *albus*, genetic origin from common ancestral strains. Mellon, R. R., and Caldwell, D. W., 1926, **12**, 409
— — — its variants, antigenic structure of. Hoffstadt, R. E., Youmans, G. P., and Clark, W., 1934, **27**, 97, ab.
— — antibody formation in animals treated intracutaneously and subcutaneously with killed cultures of. Hoffstadt, R. E., and Almaden, P., 1932, **23**, 105, ab.
— — dissociation of, and its relation to infection and immunity. Hoffstadt, R. E., and Youmans, G. P., 1932, **23**, 34, ab.
— — effect of certain tri-phenyl methane dyes on. Reed, M. V., and Genung, E. F., 1934, **27**, 29, ab.
— — evaluation of some factors influencing the phenol resistance of. Smyth, H. F., Jr., 1934, **28**, 333
— — genetic significance of variants of. Hoffstadt, R. E., and Youmans, G. P., 1934, **27**, 551
— — microbic heredity and genetic origin of. Mellon, R. R., and Caldwell, D. W., 1926, **12**, 409
— — oxidation-reduction potentials in cultures of. Clifton, C. E., 1933, **25**, 495
— — small colony variants of. Swingle, E. L., 1935, **29**, 467
— *pyogenes albus*, frontal and maxillary sinusitis and sequelae due to. Opdyke, R., 1916, **1**, 252, ab.

Starch, rôle in the cracking of chocolate creams. Philbrick, B. G., 1926, **11**, 99, ab.; 1926, **12**, 275

Statistical method, applicability to bacterial plate count. Mudge, C. S., and Lawler, B. M., 1928, **15**, 24, ab.; 207

Statistics, application to bacterial enumeration. Ziegler, N. R., and Halvorson, H. O., 1935, **29**, 609

— — of to problems in bacteriology. Accuracy of dilution data obtained by using several dilutions. Halvorson, H. O., and Ziegler, N. R., 1933, **26**, 559

— — — — — — — — — A consideration of the accuracy of dilution data obtained by using a single dilution. Halvorson, H. O., and Ziegler, N. R., 1933, **26**, 331

— — — — — — — — — A means of determining bacterial population by the dilution method. Halvorson, H. O., and Ziegler, N. R., 1933, **25**, 101

Sterilization, chemical, of milk bottles in relation to tubercle bacilli. Wade, E. M., Archibald, R. W., and Whittaker, H. A., 1928, **15**, 189

— effect of upon sugars in culture media. Mudge, C. S., 1917, **2**, 403

— — on growth promoting properties of media. Fulmer, E. I., Williams, A. L., and Werkman, C. H., 1931, **21**, 299

— of milk utensils in the destruction of *Es. coli*, relative efficiency of various methods. Lochhead, A. G., and Johns, C. K., 1933, **25**, 62, ab.

Sterilizers, Arnold, automatic water level for. Hall, I. C., 1918, **3**, 7

Sterol, production by *Aspergillus fischeri*. Wenck, P. R., Greene, H. C., and Fred, E. B., 1935, **29**, 89, ab.

Stillbirths, bacteriologic study of. DeLee, J. B., 1916, **1**, 696, ab.

Stimulating factors in certain media. Sanborn, J. R., 1926, **12**, 1

Stock cultures of the meningococcus, a culture medium for maintaining. Roos, C. G. A., 1916, **1**, 67

Stomach, note on the flora of. Burget, G. E., 1920, **5**, 299

Stool cultures, negative, relation of bacteriophage and other lytic agents to. Rabinowitz, G., 1934, **28**, 221

Stools, culture medium for the isolation of *Bacillus typhosus* from. Holt-Harris, J. E., and Teague, O., 1916, **1**, 693, ab.

— of healthy food handlers, non-lactose-fermenting bacteria isolated from, comparative bacteriological study. Kriebel, R. M., 1934, **27**, 357

Strawberries, new bacterial species isolated from. Smart, H. F., 1932, **23**, 41, ab.

Streams, mountain, reduction of bacteria in. Allen, P. W., Cole, W. E., and Cameron, G. M., 1927, **13**, 68, ab.

Streptococci, acid-forming, as indices of fomites pollution. Winslow, C.-E. A., and Sanjiyan, D. H., 1924, **9**, 513

— advances in study of. Hektoen, L., 1930, **19**, 57

— and dahlia, simultaneous injections in the guinea-pig. Hoffman, W. H., Maclure, W. B., and Sauer, L. W., 1916, **1**, 583, ab.

— — pneumococci, typical and atypical, comparison of certain strains. Sickles, G. M., 1932, **23**, 86, ab.

— beta hemolytic, relation to milk-borne septic sore throat and scarlet fever. Williams, A. W., Gurley, C. R., Sobel, E., and Castelda, M., 1932, **23**, 241

— biochemical reactions produced by. Hucker, G. J., 1929, **17**, 6, ab.

— certain, as starters for Swiss cheese. Frazier, W. C., Burkey, L. A.,

Matheson, K. J., and Watson, P. D., 1930, **19**, 50, ab.
Streptococci, certain green-producing, variant and filterable forms. McKinney, R. A., 1934, **27**, 373
— — lactic acid, rate of chemical change in milk brought about by. Kelly, C. D., 1932, **23**, 58, ab.
— comparison of methods of detecting, in freshly drawn milk samples. Plastridge, W. N., and Weirether, F. J., 1935, **30**, 212, ab.
— double-zone beta hemolytic. Brown, J. H., 1934, **27**, 104, ab.
— effects of light and drying upon. Poor, D. W., and Fitzpatrick, C. P., 1916, **1**, 703, ab.
— fibrinolytic activity of, in relation to source of strains and cultural reactions. Tillett, W. S., 1935, **29**, 111
— found in freshly drawn milk. Frost, W. D., and Engelbrecht, M. A., 1933, **25**, 58, ab.
— from alimentary tract of man and certain animals. Alston, J. M., 1928, **16**, 397
— — the colon, comparison of with Bargen's organism. Kessel, J. F., 1935, **29**, 68, ab.
— — — sputum of cases of bronchial asthma, elective localization in the bronchial musculature of. Oftedal, S., 1916, **1**, 585, ab.
— group of fecal serologic and bacteriophagic relationships. Kendrick, P., and Hollon, H. C., 1931, **21**, 49, ab.
— hemolytic and non-hemolytic, from pathogenic sources and from milk, character of acids produced by. I. Introduction. Langwill, B., 1924, **9**, 79
— — agglutination of. Mueller, J. H., and Klise, K. S., 1932, **23**, 83, ab.
— — differentiation of human and animal strains, further studies. Edwards, P. R., 1933, **25**, 527
— — effect of urine on. Robinson, G. H., and Taylor, F. A., 1931, **21**, 49, ab.
— — from different types of infection, antigenic activity. Wheeler, M. W., 1932, **23**, 82, ab.
— — — scarlet fever and erysipelas, variation in. Preliminary report. Spicer, S., Gonshorek, M. F., and Spicer, E. L., 1933, **26**, 505
— — — various sources, fermentation of sorbitol and trehalose by. Plummer, H., 1934, **27**, 465
— — found in milk. Their significance and their relation to streptococci of human origin. Davis, D. J., 1916, **1**, 83, ab.
— — hydrolysis of sodium hippurate by. Edwards, P. R., and Broh-Kahn, R., 1934, **27**, 535
— — of the beta type, in certified milk. Brown, J. H., Frost, W. D., and Shaw, M., 1926, **11**, 110, ab.
— — — human and animal origin, differentiation by group precipitin tests. Edwards, P. R., 1934, **27**, 527
— — reactions between toxins and antisera produced with. Kirkbride, M. B., Wheeler, M. W., and Hendry, J. L., 1928, **15**, 36, ab.
— — serological differentiation of strains from parturient women. Lancefield, R. C., and Hare, R., 1935, **29**, 41, ab.
— — — study of. Plummer, H., 1935, **30**, 5
— — types of in certified milk. Frost, W. D., Gumm, M., and Thomas, R. C., 1927, **13**, 61, ab.
— — usefulness of streptococcus bacteriophage for identification of strains of. Evans, A. C., 1934, **27**, 49, ab.
— human and animal strains, biochemical characters. Edwards, P. R., 1932, **23**, 259
— hydrogen-ion concentrations in cultures of. Ayers, S. H., 1916, **1**, 84, ab.

Streptococci, in the lesions of experimental poliomyelitis in monkeys. Rosenow, E. C., 1930, **19**, 27, ab.
— — — spinal fluid of experimental poliomyelitis in monkeys. Rosenow, E. C., 1930, **19**, 27, ab.
— isolated from excised tonsils and post-tonsillectomy blood culture. Pratt, J. S., and Gaillard, M. S. B., 1932, **23**, 90, ab.
— — — the throats of humans, from raw milk, flies and water during epidemics of the common cold, cataphoretic velocity and virulence of. Rosenow, E. C., 1933, **25**, 89, ab.
— — — various diseases of man, immunologic specificity of. Rosenow, E. C., 1928, **15**, 38, ab.
— lactic acid. On *Streptococcus lactis* L. and its relation to the fecal streptococci. Demeter, K. J., 1929, **17**, 32, ab.
— localization in the eye. Irons, E. E., Brown, E. V. L., and Nadler, W. H., 1916, **1**, 699, ab.
— method of studying the availability of synthetic media for. Krasnow, F., Rivkin, H., and Rosenberg, M. L., 1926, **12**, 385
— microbic dissociation in. Dutton, L. O., 1928, **15**, 38, ab.
— — — — Dutton, L. O., 1928, **16**, 1
— minute hemolytic. Cultural characteristics. Bliss, E. A., and Long, P. H., 1934, **27**, 105, ab.
— mucoid encapsulated, with particular reference to the differentiation of *Streptococcus epidemicus*, Mather's streptococcus of epidemic influenza, and *Pneumococcus* (*Streptococcus*) *mucosus*. Pilot, I., 1933, **25**, 88, ab.
— of human feces, classification of. Welch, H., 1929, **17**, 413
— — — and bovine origin, behavior of in the cow's udder. Mathers, G., 1916, **1**, 117, ab.
— — — origin, the hemolytic streptococci found in milk and their relation to. Davis, D. J., 1916, **1**, 83, ab.
— production of peroxidase by, and its possible significance. Farrell, M. A., 1934, **27**, 24, ab.
— respiratory mechanism of. Farrell, M. A., 1935, **29**, 411
— scarlatinal hemolytic, specificity of with special reference to the formation of rash developing substances. Moriwaki, G., 1929, **18**, 139
— — some toxins of. Hooker, S. B., and Follensby, E. M., 1932, **23**, 85, ab.
— significance of in milk. Rogers, L. A., Clark, W. M., and Evans, A. C., 1916, **1**, 567, ab.
— some, toxicogenic properties of. Frobisher, M., Jr., and Brown, J. H., 1927, **13**, 44, ab.
— studies of. A medium for stock cultures of and other bacteria. Ayers, S. H., and Johnson, W. T., Jr., 1924, **9**, 111
— a study of the diphtheroid group of organisms with special reference to their relation to the. Characteristics of a peculiar pleomorphic diphtheroid. Mellon, R. R., 1917, **2**, 81
— — — —

Streptococcus and *Leuconostoc*, certain types, agglutination as a means of differentiating. Hucker, G. J., 1932, **23**, 83, ab.
— colony formation, bacteriophage and variation in. Dutton, L. O., 1927, **13**, 43, ab.
— cultures, hemolytic, bacillary forms in. Evans, A. C., 1933, **25**, 95, ab.
— *epidemicus*, carriers of. Frost, W. D., 1932, **23**, 88, ab.
— — diversity of types present in stock cultures of. Edwards, P. R., and Dimock, W. W., 1933, **25**, 60, ab.
— — isolated during a septic sore throat epidemic. Robinson, E. S., 1929, **17**, 53, ab.
— — mucoid encapsulated streptococci with particular reference to the differentiation of Mather's streptococcus of epidemic influenza, *Pneumococcus* (*Streptococcus*) *mucosus* and. Pilot, I., 1933, **25**, 88, ab.
— *erysipelatis*, toxin production of. Birkhaug, K. E., 1926, **11**, 112, ab.
— genus, classification of. Pribram, E., 1933, **25**, 41, ab.
— hemolytic, a "bacteriophage" active against. Clark, P. F., and Clark, A. S., 1926, **11**, 89, ab.
— — biological characters of the G and M. variants. Roos, C., Reichel J., and Clark, J., 1934, **27**, 99, ab.
— — improved method for detection of carriers. Mueller, J. H., and Whitman, L., 1931, **21**, 219
— — organisms recovered from filtrates of. Nicholls, E. E., 1935, **30**, 443, ab.
— *hemolyticus*, biochemistry of. Foster, L. F., 1921, **6**, 211
— — capsules in young cultures of. Seastone, C. V., 1934, **28**, 481
— — relation of hydrogen-ion concentration to the growth, viability, and fermentative activity of. Foster, L. F., 1921, **6**, 161
— — two strains of, observations on variants derived from. Gallagher, C. D., 1931, **22**, 363
— infection, bacteriophage as a factor in the recovery from. Dutton, L. O., 1927, **13**, 44, ab.
— — modified Loeffler's blood serum medium for routine health department examination for. Medalia, L. S., Bailey, K. R., and Atwood, C., 1931, **21**, 119
— — rôle of the bacteriophage in. Dutton, L. O., 1926, **11**, 89, ab.
— *kefir*, gas production of. Sherman, J. M., 1921, **6**, 127
— lactic acid, and streptococci of the pyogenes type occurring in milk, characters which differentiate. Sherman, J. M., and Albus, W. R., 1918, **3**, 153
— *lactis* and the litmus milk reaction. Demeter, K. J., 1926, **11**, 97, ab.
— — concerning the habitat of. Stark, P., and Sherman, J. M., 1935, **30**, 639
— — inhibiting effect on *Lactobacillus bulgaricus*. Rogers, L. A., 1928, **15**, 26, ab.
— — inhibition of *L. bulgaricus* by. Rogers, L. A., 1928, **16**, 321
— — L. and its relation to the fecal streptococci. Demeter, K. J., 1929, **17**, 32, ab.
— — variations in. Harriman, L. A., and Hammer, B. W., 1930, **19**, 48, ab.
— new- or delta-type. Bryant, C. K., 1925, **10**, 53
— of epidemic encephalitis. Evans, A. C., and Freeman, W., 1926, **11**, 110, ab.
— — — influenza, Mather's, mucoid encapsulated streptococci with particular reference to the differentiation of *Streptococcus epidemicus*, *Pneumococcus* (*Streptococcus*) *mucosus* and. Pilot, I., 1933, **25**, 88, ab.

Streptococcus, relation of vitamines to the growth of. Ayers, S. H., and Mudge, C. S., 1922, **7**, 449
— Rosenow, filtrable forms from anterior poliomyelitis. Richardson, R. D., 1932, **23**, 29, ab.
— *thermophilus*, use in ripening milk for Swiss cheese. Frazier, W. C., 1933, **25**, 63, ab.
— *viridans*, derivation from single cell strains of *Streptococcus hemolyticus*. Grinnell, F. B., 1928, **16**, 117
— — recovery of from New York street dust. Thro, W. C., 1916, **1**, 360, ab.
— — relation of dissociants of R pneumococcus to. Paul, J. R., 1934, **28**, 69
Streptothrix in bronchopneumonia of rats similar to that of rat-bite fever. Tunnicliff, R., 1916, **1**, 580, ab.
— isolated from the blood in a case of acute rheumatism. Thjøtta, T., and Gundersen, E., 1925, **10**, 1
Stumps, decayed, relative persistence of *Bact. coli* and *Bact. aerogenes* in. Tonney, F. O., and Noble, R. E., 1931, **22**, 433
Subepithelial infections of the intestines of birds, coccidia in. Hadley, P. B., 1917, **2**, 73
Subsoil, polluted, non-lactose fermenting bacteria from. Kligler, I. J., 1919, **4**, 35
Substrates, bacterial, mechanism of Abderhalden reaction with. Smith, G. H., and Cook, M. W., 1916, **1**, 128, ab.
subtilis, *see Bacillus*
Succinic and acetic acids, intermediate behavior of, in the propionic fermentation. Erb, C., Wood, H. G., Stone, R. W., and Werkman, C. H., 1935, **29**, 85, ab.
Sucrose, chemical action of *Aerobacter faeni* on. Breden, C. R., Fulmer, E. I., Werkman, C. H., and Hixon, R. M., 1930, **19**, 41, ab.
— formation of gum levan from. Owen, W. L., 1923, **8**, 421
— fermentation and immunizing power by *B. avisepticus*, relation between. Hadley, P., Caldwell, D. W., and Heath, B. M., 1919, **4**, 68
— solutions, viability of yeasts in. Tanner, F. W., and Burrows, W., 1931, **21**, 32, ab.
Sugar as source of anaerobes causing explosion of chocolate candies. Weinzirl, J., 1926, **11**, 100, ab.; 1927, **13**, 203
— fermentation, extremely economical. Conn, H. J., and Darrow, M. A., 1934, **27**, 51, ab.
— — present status of the problem. Neuberg, C., and Kobel, M., 1934, **28**, 461
— in bacterial cultures, determination of. Stiles, H. R., and Peterson, W. H., 1926, **11**, 79, ab.
— — — — rapid method for determination of. Stiles, H. R., Peterson, W. H., and Fred, E. B., 1926, **12**, 427
— oxidation of on trickling filters. Levine, M., Burke, G. W., and Watkins, J. H., 1926, **11**, 94, ab.
— preservative action in catsup. Pederson, C. S., and Breed, R. S., 1927, **13**, 59, ab.
— reducing, in bacteriological media, study of methods for the estimation of. Magee, M. C., and Smith, H. G., 1930, **19**, 125
— solutions, concentrated, effect on thermo-death times of molds. Wallace, G. I., and Tanner, F. W., 1931, **21**, 32, ab.
— white, relationship of crystal surface contaminants to biological quality of. Hall, H. H., and James, L. H., 1935, **29**, 72, ab.
Sugars, certain, and their derivatives, utilization by bacteria. Koser, S. A., and Saunders, F., 1933, **26**, 475

Sugars, certain substituted, the utilization of by bacteria. Koser, S. A., and Saunders, F., 1933, **25,** 32, ab.
— in culture media, the effect of sterilization upon. Mudge, C. S., 1917, **2,** 403
— inhibition of *Phytomonas malvaceara* in culture media containing. Lewis, I. M., 1930, **19,** 423
— white, yeast growth-promoting substances in. Hall, H. H., and James, L. H., 1933, **25,** 67, ab.
Suipestifer—para-typhoid B group, studies in differentiation. Edwards, P. R., and Rettger, L. F., 1927, **13,** 73
suis, see Brucella
Sulfite waste liquor, anaerobic bacteria capable of fermentation of. Partansky, A. M., and Henry, B. S., 1935, **30,** 559
Sulfofication, studies in. Brown, P. E., and Johnson, H. W., 1916, **1,** 553, ab.
Sulfur compounds, volatile, formation of by bacteria, method of study. Almy, L. H., and James, L. H., 1926, **12,** 319
— in soils, oxidation of as a means of increasing the availability of mineral phosphates. Lipman, J. G., McLean, H. C., and Lint, H. C., 1916, **1,** 678, ab.
— oxidation of in the soil, microörganisms concerned in. Introductory. Waksman, S. A., 1922, **7,** 231
— — — — — — — — — — A solid medium for isolation and cultivation of *Thiobacillus thiooxidans*. Waksman, S. A., 1922, **7,** 605
— — — — — — — — — — *Thiobacillus thiooxidans*, a new sulfur-oxidizing organism isolated from the soil. Waksman, S. A., and Joffe, J. S., 1922, **7,** 239
— studies on the bacterial metabolism of. Formation of hydrogen sulfide from certain sulfur compounds under aerobic conditions. Tanner, F. W., 1917, **2,** 585
Sulphate, Nile-blue, action of certain bacteria on some simple tri-glycerides and natural fats, as shown by. Collins, M. A., and Hammer, B. W., 1934, **27,** 473
— — types of lipolysis brought about by bacteria, as shown by. Collins, M. A., and Hammer, B. W., 1934, **27,** 487
Sulphur containing compounds, reduction of in wood pulp and paper manufacture. Beckwith, T. D., and Moser, J. R., 1932, **24,** 43
— elemental, and calcium sulphate, effect of on certain of the higher and lower forms of plant life. Pitz, W., 1916, **1,** 132, ab.
— fungicidal action of. Wilcoxon, F., and McCallan, S. E. A., 1935, **30,** 441, ab.
Sunlight as a disinfectant. Meader, F. M., 1926, **11,** 82, ab
— bactericidal effects of as affected by glass. Hausmann, T. W., 1929, **17,** 46, ab.
Suppurative lesions in animals, relation of *Bacterium pyogenes* to. Ward, A. R., 1917, **2,** 619
Surface tension and bacterial growth. Gibbs, W. M., Batchelor, H. W., and Sickels, T. N., 1926, **11,** 393
— — apparatus for the rapid measurement of. Green, R. G., 1922, **7,** 367
— — effect of on growth of the Lactobacilli. Albus, W. R., 1928, **16,** 197
— — — on growth of *Lactobacillus acidophilus* and *Lactobacillus bulgaricus*. Albus, W. R., and Holm, G. E., 1926, **12,** 13
— — influence upon germination of bacterial spores. Curran, H. R., 1931, **21,** 211
— — interfacial, and bacterial growth. Davis, N., 1927, **13,** 381

Surface tension relation of to action of disinfectants. Frobisher, M., Jr., 1927, **13**, 163
— — — to bacterial development. Pizarro, O. R., 1927, **13**, 387
— — studies with *L. acidophilus* and *L. bulgaricus*. Kopeloff, N., and Beerman, P., 1927, **13**, 7, ab.
Survival, bacterial, factors which influence tests. Effect of the pH of survival test culture on results obtained with a saprophytic tubercle bacillus. Isaacs, M. L., 1930, **20**, 175
— — — — — — — — — — varying periods of incubation of the survival test culture. Isaacs, M. L., 1930, **20**, 161
— of bacteria in saline solutions, factors influencing. Ballantyne, E. N., 1930, **19**, 303
Suspensions, aqueous, viability of various species of bacteria in. Winslow, C.-E. A., and Brooke, O. R., 1927, **13**, 235
— bacterial, influence of hydrogen ion concentration upon viscosity of. Falk, I. S., and Harrison, R. W., 1926, **11**, 85, ab.
— — — — — — — — on viscosity of. Falk, I. S., and Harrison, R. W., 1926, **12**, 97
— of living cells, a method for obtaining from the fixed tissues, and for the plating out of individual cells. Rous, P., and Jones, F. S., 1916, **1**, 256, ab.
— study of effect of dilution water on bacterial. Weeter, H. M., 1916, **1**, 92, ab.
Sutures, catgut, bacterial testing of. Clock, R. O., 1932, **23**, 108, ab.
Swimming pools at state university of Iowa, purification of. Hinman, J. J., 1916, **1**, 680, ab.
— — chlorinated, bacterial content of, during use. Mallmann, W. L., 1935, **29**, 26, ab.
— — sanitary control of. Levine, M., 1916, **1**, 680, ab.
Symbiosis between Rhizobia and legume plants, moisture control in studies of. Hofer, A. W., 1935, **29**, 76, ab.
Symbiotic bacteria in the tissues of higher organisms. Wallin, I. E., 1922, **7**, 471
— nitrogen fixation, carbohydrate-nitrogen relationship in. Wilson, P. W., 1935, **29**, 82, ab.
Synthetic media, preliminary report on. Doryland, C. J. T., 1916, **1**, 135
Syphilis among juvenile delinquents. Harris, T. H., 1916, **1**, 258, ab.
— and tuberculosis in the same lung. Keilty, R. A., 1916, **1**, 694, ab.
— antigenic studies of the precipitation test for. Weiss, E., 1930, **19**, 34, ab.
— bile as antigen in serum diagnosis of. Colosi, N., 1921, **21**, 48, ab.
— experimental, in the rabbit. Wile, U. J., 1916, **1**, 258, ab.
— — — rabbits, effect of heat produced by an ultra-high frequency oscillator on. Carpenter, C. M., and Boak, R. A., 1930, **19**, 24, ab.
— in epilepsy. Shanahan, W. T., Munson, J. F., and Shaw, A. L., 1916, **1**, 585, ab.
— immunity in. Zinsser, H., 1916, **1**, 686, ab.
— influence of antigen-diluents on the intensity of flocculation in the precipitation test for. Weiss, E., 1931, **21**, 47, ab.
— Koch's postulates in, remarks on. Ecker, E. E., 1933, **25**, 92, ab.
— primary, salvarsan in. Uhle, A. A., and Mackinney, W. H., 1916, **1**, 260, ab.
— serology of, League of Nations conferences on. Kahn, R. L., 1932, **23**, 13, ab.
— studies on *Treponema pallidum* and. Zinsser, H., Hopkins, J. G., and McBurney, M., 1916, **1**, 692, ab.

Syphilis untreated, variations in the strength of positive Wassermann reactions in. Haller, D. A., 1916, **1**, 366, ab.
Syphilitic blood proteins, specific characteristics of. Walton, S. T., 1935, **29**, 55, ab.
— serum, precipitation with fractions of. Kendrick, P. L., and Kahn, R. L., 1926, **11**, 105, ab.
Syringe, water supply for a bath. Mellon, R. R., 1919, **4**, 291
Syrups, fermentation flavors in. James, L. H., and Hall, H. H., 1933, **25**, 68, ab.

T

Taxonomic study of *Acidophilus* group. Curran, H. R., and Rogers, L. A., 1932, **23**, 39, ab.
Taxonomy, bacteriologic, fallacious tendencies in. Hall, I. C., 1926, **11**, 75, ab.; 1927, **13**, 245
— of the legume bacteria. Buchanan, R. E., 1927, **13**, 50, ab.
— report of committee on. Diagrammatic summary of various bacterial classifications. Buchanan, R. E., Breed, R. S., and Rettger, L. F., 1928, **16**, 387
Technic, bacteriological, committee report on. Conn, H. J., Burke, V., Hall, I. C., Jennison, M. W., Kennedy, J. A., Cohen, B., and Genung, E., 1935, **29**, 2, ab.
— — progress report for committee 1920. Conn, H. J., Atkins, K. N., Kligler, I. J., Norton, J. F., and Harmon, G. E., 1921, **6**, 135
— — report of committee on. Concerning the manual of methods published by the society. Conn, H. J., Burke, V., Cohen, B., Genung, E. F., Kulp, W. L., and Wright, W. H., 1928, **16**, 145
— — — — — — Investigation of American gentian violets. Conn, H. J., 1922, **7**, 529
— — — — — — Methods of pure culture study. Conn, H. J., Atkins, K. N., Brown, H. J., Eberson, F., Harmon, G. E., Hucker, G. J., Tanner, F. W., and Waksman, S. A., 1922, **7**, 519
— — — — — — new undertakings during 1929. Conn, H. J., Burke, V., Cohen, B., Genung, E. F., Hall, I. C., and Kulp, W. L., 1930, **19**, 2, ab.
— — — — — — progress during 1930. Conn, H. J., Burke, V., Cohen, B., Genung, E. F., Hall, I. C., and Kulp, W. L., 1931, **21**, 1, ab.
— — — — — — progress during 1931. Conn, H. J., Burke, V., Hall, I. C., Kennedy, J. A., Cohen, B., and Genung, E. F., 1932, **23**, 12, ab.
— — — — — — progress during 1932. Conn, H. J., Burke, V., Hall, I. C., Kennedy, J. A., Cohen, B., and Genung, E. F., 1933, **25**, 20, ab.
— — — — — — progress during 1933. Conn, H. J., Burke, V., Hall, I. C., Kennedy, J. A., Cohen, B., and Genung, E. F., 1934, **27**, 22, ab.
— single cell. Presentation of the pipette method. Gee, A. H., and Hunt, G. A., 1928, **16**, 327
Technique, direct microscope, for study of freshwater bacteria. Henrici, A. T., 1933, **25**, 277
— micrurgical. Reyniers, J. A., 1933, **26**, 251
Teeth, study of the bacteria of normal and decayed. Kligler, I. J., 1916, **1**, 114, ab.
Tellurium, value of some compounds of as disinfectants. Munn, L. E., and Hopkins, B. S., 1925, **10**, 79
Temperature, atmospheric, moderately high, effect on formation of hemolysins. Winslow, C.-E. A., Miller, J. A., and Noble, W. C., 1916, **1**, 365, ab.

Temperature, effect on bacterial numbers in digesting sewage sludge. Heukelekian, H., and Rudolfs, W., 1929, **17**, 247
— — — growth and fermentation of lactic acid bacteria. Foter, M. J., 1935, **30**, 211, ab.
— — — the production of hydrogen sulphide by *Salmonella pullorum*. Tittsler, R. P., 1931, **21**, 111
— — — — — rate of growth of *E. coli* in broth. Jennison, M. W., and Bunker, J. W. M., 1932, **23**, 52, ab.
— — — viability of *Bact. coli* and *Bact. typhosum* in water. Cohen, B., 1922, **7**, 183
— low, natural, effect of on certain fungi and bacteria. Bartram, H. E., 1916, **1**, 131, ab.
— of incubation, effect on the agar plate count of milk. Pederson, C. S., and Yale, M. W., 1934, **27**, 70, ab.
— relation to the germicidal efficiency of lye solutions. McCulloch, E. C., 1932, **23**, 50, ab.
— — — — growth of thermophilic bacteria. Tanner, F. W., and Wallace, G. I., 1925, **10**, 421
— shock, attenuation of bacteria due to. Allen, P. W., 1923, **8**, 555
Temperatures, fever, effect on *N. gonorrheae*. Boak, R. A., Carpenter, C. M., and Mucci, L. A., 1932, **23**, 106, ab.
— — — — *Treponema pallidum*. Boak, R. A., and Carpenter, C. M., 1932, **23**, 106, ab.
— freezing, germicidal action of. Hilliard, C. M., and Davis, M. A., 1918, **3**, 423
— high, streptococci which grow at. Sherman, J. M., and Stark, P., 1931, **22**, 275
— higher, factors limiting bacterial growth at. Casman, E. P., and Rettger, L. F., 1931, **21**, 27, ab.
— — limitation of bacterial growth at. Casman, E. P., and Rettger, L. F., 1933, **26**, 77
— refrigeration, relation to the rate of growth of certain specific types of bacteria causing food spoilage. Prescott, S. C., and Bates, P. K., 1931, **21**, 25, ab.
— within bacterial incubators, variation of. Ward, A. R., and Harding, H. A., 1926, **11**, 91, ab.
— various freezing, destruction of microörganisms at. Berry, J. A., 1933, **25**, 74, ab.
Termites, spirochaetes of. Damon, S. R., 1926, **11**, 31
tertius, see Clostridium
Test, retention, for inhalants and similar preparations. Broadhurst, J., and Lehr, B. E., 1930, **19**, 38, ab.
— tube plugs. Broadhurst, J., 1927, **13**, 5, ab.
Testicular infusion agar—a sterilizable culture medium for the gonococcus. Hall, I. C., 1916, **1**, 343
Testing, bacterial, versus dairy inspection. North, C. E., 1916, **1**, 566, ab.
Tests, biochemical differential, and their interpretation in coli-aerogenes differentiation in water analysis. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **22**, 125
— phenol coefficient, by the hygienic laboratory and department of agriculture methods. Reddish, G. F., 1930, **19**, 37, ab.
— presumptive, validity of. Monfort, W. F., 1916, **1**, 113, ab.
tetani, see Clostridium
tetanus, see Clostridium
Tetanus. Tullidge, E. K., 1916, **1**, 586, ab.
— post-operative. Speed, K., 1916, **1**, 584, ab.
— toxin, effect of pepton upon production of. Wilcox, H. L., 1921, **6**, 407
— — modification of the hygienic laboratory method for the production of. Wilcox, H. L., 1916, **1**, 333

Tetanus toxoid, unprecipitated and alum precipitated, antigenic value of. Bergey, D. H., and Etris, S., 1934, **27**, 95, ab.
Therapeutics, intravenous serobacterin. Robertson, W. E., 1916, **1**, 570, ab.
Therapy, chemo-, of experimental bacterial infections. Jacobs, W. A., 1916, **1**, 460, ab.
— tuberculin. Shively, H. L., 1916, **1**, 251, ab.
— vaccine. Ehret, G. A., 1916, **1**, 253, ab.
Thermal death rates, relative, of young and mature bacterial cells. Stark, C. N., and Stark, P., 1929, **18**, 333
— resistance of bacterial spores as affected by age and environment. Magoon, C. A., 1926, **11**, 253
Thermoduric bacteria, non-spore-forming, from pasteurized milk. Robertson, A. H., 1928, **15**, 26, ab.
Thermogenesis, microbial. Effect of salting on the microbial heating of alfalfa hay. Stuart, L. S., and James, L. H., 1930, **19**, 53, ab.
— — Heat production in moist organic materials with special reference to the part played by microörganisms. James, L. H., Rettger, L. F., and Thom, C., 1928, **15**, 117
Thermophile coagulating under practical conditions. Hussong, R. V., and Hammer, B. W., 1928, **15**, 179
Thermophiles, anaerobic sporulating. Damon, S. R., and Feirer, W. A. 1925, **10**, 37
— — taxonomy of, in relation to "swells" in cans. McClung, L. S., 1935, **29**, 189
— — technique of culture of. McClung, L. S., 1935, **29**, 173
— in freshly drawn milk. Hansen, P. A., 1930, **19**, 46, ab.
— — milk. Mudge, C. S., and Thorwaldson, M. L., 1930, **19**, 47, ab.
Thermophilic *Actinomyces*, a new. Bernstein, A., and Morton, H. E., 1934, **27**, 625
— bacillus, bacteriophage active against. Koser, S. A., 1927, **13**, 14, ab.
— bacteria. Bergey, D. H., 1919, **4**, 301
— — Aerobic thermophiles from water. Morrison, L. E., and Tanner, F. W., 1922, **7**, 343
— — and milk pasteurization. Harding, H. A., and Ward, A. R., 1926, **11**, 95, ab.
— — from milk. Tanner, F. W., and Harding, H. G., 1926, **11**, 96, ab.
— — in pasteurizing plants, control of. Yale, M. W., 1930, **19**, 46, ab.
— — relation of temperature to growth of. Tanner, F. W., and Wallace, G. I., 1925, **10**, 421
— — spores of, "natural" or "normal" resistance. Cameron, E. J., 1931, **21**, 31, ab.
— cellulose decomposing organisms, growth on agar. Tetrault, P. A., 1930, **19**, 15, ab.
— — fermenting bacteria, isolation of. Snieszko, S., 1932, **23**, 71, ab.
— contamination in the canning of peas and corn. Cameron, E. J., Williams, C. C., and Thompson, R. J., 1927, **13**, 64, ab.
— fermentation of beet pulp. Werkman, C. H., and Stritar, J., 1932, **23**, 70, ab.
— flora of sugar and its relation to canning. Cameron, E. J., and Williams, C. C., 1928, **15**, 31, ab.
— microörganisms from imported canned shalots (onions). Prickett, P. S., 1931, **21**, 29, ab.
— organism, a highly resistant. Donk, P. J., 1920, **5**, 373
— organisms found in culture media. Prickett, P. S., and Breed, R. S., 1928, **16**, 247
— — in milk. Prickett, P. S., 1928, **15**, 28, ab.
— — production of agglutinins against. McClung, L. S., 1934, **27**, 64, ab.
— spoilage bacteria, distribution of. James, L. H., 1928, **15**, 32, ab.

Thermophilic spore-formers associated with milk. Prickett, P. S., 1929, **17,** 36, ab.
— — -forming bacteria, bacteriostatic effect of gentian violet on. Cameron, E. J., 1930, **19,** 52, ab.
— — — in pasteurized milk, significance of. Breed, R. S., Prickett, P. S., and Yale, M. W., 1929, **17,** 37, ab.
thermophilus, see Streptococcus
Thermotolerant organisms as a cause of so-called pin-point colonies. Fay, A. C., 1927, **13,** 347
Thiobacteriales, subgroups and genera of. Buchanan, R. E., 1918, **3,** 461
Thiobacillus thiooxidans, carbon and nitrogen nutrition of. Starkey, R. L., 1925, **10,** 165
— — isolation and cultivation of. Waksman, S. A., 1922, **7,** 605
— — new sulfur-oxidizing organism isolated from the soil. Waksman, S. A., and Joffe, J. S., 1922, **7,** 239
— — physiology of. Starkey, R. L., 1925, **10,** 135
— — solid medium for isolation and cultivation of. Waksman, S. A. 1922, **7,** 605
Thiobacteriales, nomenclature and classification of. Buchanan, R. E., 1918, **3,** 461
Thionin as a diagnostic stain for Pyorrhea Alveolaris. Dupray, M., 1916, **1,** 266, ab.
thiooxidans, see Thiobacillus
Thiosulfate, cultivation of organisms concerned in the oxidation of. Starkey, R. L., 1934, **27,** 52, ab.; 1934, **28,** 365
— production of polythionates from by microörganisms. Starkey, R. L., 1934, **28,** 387
— products of the oxidation of by bacteria in mineral media. Starkey, R. L., 1934, **27,** 53, ab.
Throat cultures, routine, yeasts, probably pathogenic, recovered from. Grover, A. L., 1916, **1,** 121, ab.
Thousand Island dressing, bacterial spoilage of. Pederson, C. S., 1930, **20,** 99
Thyroid disturbances, tonsillar endamebiasis and. Evans, J. S., Middleton, W. S., and Smith, A. J., 1916, **1,** 468, ab.
Timothy bacillus protein MA 100, comparison with tuberculin O.T. and human tubercle bacillus protein MA 100 in regard to skin reaction in man. Huntoon, F. M., Funk, E. H., and White, H., 1931, **21,** 57, ab.
Tissue cultures, action of bacterial vaccines on. Smyth, H. F., 1916, **1,** 465, ab.
— — bactericidal action in. Smyth, H. F., 1916, **1,** 465, ab.
— animal, reactions between bacteria and under conditions of artificial cultivation. Smyth, H. F., 1916, **1,** 465, ab.
— fish, sterility of. Proctor, B. E., and Nickerson, J. T. R., 1935, **30,** 377
— human, cultivation of in vitro. Lambert, R. A., 1916, **1,** 464, ab.
— muscular, apparently normal, bacteria in. Reith, A. F., 1926, **12,** 367
— sterility of fish. Proctor, B. E. and Nickerson, J. T. R., 1935, **29,** 71, ab.
Titration and adjustment of culture media, practical observations on the. Anthony, B. van H., and Ekroth, C. V., 1916, **1,** 209
— — the buffer index of bacteriological media, and hydrogen ions. Brown, J. H., 1921, **6,** 555
— formol, of bacteriological media. Brown, J. H., 1923, **8,** 245
— of streptococcal toxin, use of chinchilla rabbits for. Fraser, F. H., and Ross, M. A., 1932, **23,** 84, ab.
Titrimetric adjustment of hydrogen ion concentration of bacteriologic culture media. Hall, I. C., 1923, **8,** 387

Tobacco mosaic, destructive action of certain bacteria on the virus of. Mulvania, M., 1926, **11,** 98, ab.
— — root inoculation with the virus of. Mulvania, M., 1930, **19,** 23, ab.
— — typical, virus of as influenced by ultraviolet and visible light. Duggar, B. M., and Hollaender, A., 1934, **27,** 219
— some properties of the mosaic disease of. Allard, H. A., 1916, **1,** 706, ab.
— typical mosaic of, problem of seed transmission. Duggar, B. M., 1930, **19,** 20, ab.
Toluol: its value in the sterilization of vaccines made from nonsporogenous gram negative bacteria. Bristol, L. D., 1916, **1,** 689, ab.
Tomato juice, new heat resistant, acid tolerant organisms causing spoilage in. Berry, R. N., 1933, **25,** 72, ab.
— — processing of. Pederson, C. S., 1933, **25,** 73, ab.
— plants, spread of mosaic virus in. McCubbin, W. A., and Smith, F. F., 1930, **19,** 23, ab.
— products, organisms causing spoilage. Pederson, C. S., 1929, **17,** 30, ab.
Tonsil, infection of. Connellan-King diplococcus. King, J. J., 1916, **1,** 697, ab.
Tonsillar endamebiasis and thyroid disturbances. Evans, J. S., Middleton, W. S., and Smith, A. J., 1916, **1,** 468, ab.
Tonsillectomy, treatment of diphtheria carriers by. Ruh, H. O., Miler, M. J., and Perkins, R. G., 1916, **1,** 381, ab.
Tonsillitis, chronic. Fischer, L., 1916, **1,** 257, ab.
Tonsils, excised, streptococci isolated from. Pratt, J. S., and Gaillard, M. S. B., 1932, **23,** 90, ab.
— human, *Brucella abortus* in. Poelma, L. J., and Pickens, E. M., 1932, **23,** 112, ab.
Torula infection, generalized, in man. Rappaport, B. Z., and Kaplan, B., 1926, **11,** 109, ab.
Torula pulcherrima, spontaneous variations of. Punkari, L., and Henrici, A. T., 1935, **29,** 259
Toxic principle in diphtheria toxin, stability of. Bunney, W. E., 1932, **23,** 104, ab.
Toxicity, dynamics of. Falk, I. S., and Winslow, C.-E. A., 1926, **11,** 1
Toxin, diphtheria, purification and concentration of. Eaton, M. D., and Bayne-Jones, S., 1935, **29,** 56, ab.
— nature of. Warden, C. C., Connell, J. T., and Holly, L. E., 1921, **6,** 103
— staphylococcus, production of. Leonard, G. F., and Holm, A., 1935, **29,** 45, ab.
— streptococcal, use of chinchilla rabbits for the titration of. Fraser, F. H., and Ross, M. A., 1932, **23,** 84, ab.
Toxins and antisera produced with hemolytic streptococci, reactions between. Kirkbride, M. B., Wheeler, M. W., and Hendry, J. L., 1928, **15,** 36, ab.
— bacterial, local reactivity to. (A preliminary report). Wadsworth, A., and Sickles, G. M., 1933, **25,** 80, ab.
— response of tuberculous animals to. Freund, J., 1935, **30,** 443, ab.
Toxoid, diphtheria, preparation of, by adsorption on calcium phosphate. Wadsworth, A., Quigley, J. J., and Sickles, G. R., 1935, **29,** 44, ab.
— staphylococcus, production of. Leonard, G. F., and Holm, A., 1935, **29,** 45, ab.
Trachitis, infectious, in domestic fowl, relation of saprophytic and secondary bacteria occurring in respiratory tracts in to agglutinin production in the blood. Gibbs, C. S., 1931, **21,** 45, ab.
Trachoma, epithelial cell inclusions in and their relationship to the disease. Bengston, I. A., 1929, **17,** 54, ab.

Transfusion, continuous; production of immunity. Kahn, A., 1916, **1**, 366, ab.

Trehalose, fermentation of by haemolytic streptococci from various sources. Plummer, H., 1934, **27**, 465

Treponema, on a species of found in rabbits. Zinsser, H., and Hopkins, J. G., 1916, **1**, 489

— *pallidum* and syphilis. Zinsser, H., Hopkins, J. G., and McBurney, M., 1916, **1**, 692, ab.

— — cultivated non-virulent, difference in behavior in immune serum between virulent Treponemata from lesions and. Zinsser, H., Hopkins, J. G., and McBurney, M., 1916, **1**, 379, ab.

— — effect of fever temperatures on. Boak, R. A., and Carpenter, C. M., 1932, **23**, 106, ab.

— — host adaptability of. Ecker, E. E., 1933, **25**, 92, ab.

— — in vivo thermal death time of. Boak, R. A., Carpenter, C. M., and Warren, S. L., 1933, **25**, 93, ab.

— — spirochaeticidal antibodies against. Zinsser, H., and Hopkins, J. G., 1916, **1**, 378, ab.

— — strains passed through rabbits, individual fluctuations in virulence and comparative virulence. Zinsser, H., Hopkins, J. G., and McBurney, M., 1916, **1**, 378, ab.

Trichiniasis. Wohl, M. G., 1916, **1**, 266, ab.

Trichinosis. Elliott, A. R., 1916, **1**, 266, ab.

— and the cerebrospinal fluid. Lintz, W., 1916, **1**, 579, ab.

Trichoderma lignorum, yeast-growth stimulant production by. Schopmeyer, H., and Fulmer, E. I., 1931, **22**, 23

Trichomonasis of chicks: a new and highly fatal disease. Weinzirl, J., 1917, **2**, 441

trifolii, see Rhizobium

Trikresol and carbolic acid in the preservation of hog cholera serum, relative value of. Reichel, J., 1916, **1**, 359, ab.

Triphenylmethane dyes, use in addition to lactose peptone bile media for the detection of members of the colon group in milk analysis. Poe, C. F., Hale, W. H., and Poe, F. E., 1928, **15**, 9, ab.

— — — — — — — — — — — — — — — — — — — —

colon group in water analysis. Poe, C. F., Field, J. T., Tobey, S., and Witt, N. F., 1928, **15**, 9, ab.

Tryptophane solution, indol test in. Barthel, C., 1921, **6**, 85

Tubercle bacilli, action of iron and citrate in synthetic media for. Reed, G. B., and Rice, C. E., 1928, **16**, 97

— — antiseptic effect of certain recently-advocated compounds. Cohn, M. L., 1934, **27**, 517

— — chemical sterilization of milk bottles in relation to. Wade, E. M., Archibald, R. W., and Whittaker, H. A., 1928, **15**, 189

— — comparison of Ziehl-Neelsen and Schulte-Tigges methods of staining. Shoub, H. L., 1923, **8**, 121

— — human, influence of adverse conditions upon the respiratory metabolism and growth of. Loebel, R. O., Shorr, E., and Richardson, H. B., 1933, **26**, 167

— — — — — — foodstuffs upon the respiratory metabolism and growth of. Loebel, R. O., Shorr, E., and Richardson, H. B., 1933, **26**, 139

— — in milk, effect of heat produced by alternating electric current on. Carpenter, C. M., 1929, **17**, 38, ab.

— — — pulmonary tuberculosis, variation in. Reed, G. B., Rice, C. E., and Orr, J. H., 1933, **25**, 96, ab.

— — — sputums, use of Bordet-Gengou and Löwenstein's media as a substitute for guinea-pig inoculation in the detection of. Mishulow, L., Romano, M., Melman, M., Kereszturi, C., 1934, **27**, 103, ab.

Tubercle bacilli killed, resistance to infection of animals sensitized with. Petroff, S. A., and Stewart, F. W., 1926, **11**, 104, ab.
— — living, new method for suspending and counting. Jennings, F. B., 1926, **11**, 104, ab.
— — particularly B.C.G., dissociation of. Reed, G. B., 1932, **23**, 32, ab.
— — persistence in soil, and the effect of various soil microörganisms on tubercle bacilli. Rhines, C., 1934, **27**, 56, ab.
— — relationship of soil protozoa to. Rhines, C., 1935, **29**, 369
— — stain for. Klein, E., 1916, **1**, 256, ab.
— bacillus, anomalous behavior as a Gram-positive organism with high resistance to gentian violet. Stearn, E. W., and Stearn, A. E., 1932, **23**, 399
— — a new culture medium for. Williams, W. W., and Burdick, W., 1916, **1**, 411
— — asparagin and glycerin metabolism of. Dingle, J. H., and Weinzirl, J., 1932, **23**, 35, ab.
— — avian, life cycle of, further studies. Mellon, R. R., Richardson, R. D., and Fisher, L. W., 1933, **25**, 45, ab.
— — — persistence of, in soil and in association with soil microörganisms. Rhines, C., 1935, **29**, 299
— — biology of. Asparagin and glycerol metabolism. Dingle, J. H. and Weinzirl, J., 1932, **23**, 281
— — — — a new cyclostage (the critical R) of. Mellon, R. R., 1935, **30**, 654, ab.
— — cultivation of from sputum by the method of Petroff. Keilty, R. A., 1916, **1**, 584, ab.
— — device for protection against. Keilty, R. A., 1916, **1**, 576, ab.
— — Does the so-called fatty capsule serve to protect the tubercle bacillus? Weinzirl, J., 1933, **25**, 447
— — effects of pancreatic enzymes on. Berg, W. N., 1932, **24**, 341
— — enzymes of. Corper, H. J., and Sweany, H. C., 1918, **3**, 129
— — granular form, filtration experiments. Mellon, R. R., and Jost, E. L., 1929, **17**, 56, ab.
— — hydrochloric acid as a decolorizing agent for. Keilty, R. A., 1916, **1**, 576, ab.
— — microbic dissociation of. Petroff, S. A., 1928, **15**, 40, ab.
— — notes on life cycle phenomena and filtrability. Sweany, H. C., 1933, **25**, 587
— — protein MA 100, human, comparison with tuberculin O.T. and Timothy bacillus protein MA 100 in regard to skin reaction in man. Huntoon, F. M., Funk, E. H., and White, H., 1931, **21**, 57, ab.
— — relation between complement fixation and skin reactive antigens of. Abadjieff, B., 1926, **12**, 355
— — saprophytic, effect of pH of survival test culture on result of test with. Isaacs, M. L., 1930, **20**, 175
— chorodial, in tuberculous meningitis. Bredeck, J. F., 1916, **1**, 376, ab.
— group of microörganisms, new studies on the filtrability of pure cultures. Mellon, R. R., and Fisher, L. W., 1932, **23**, 18, ab.
Tuberculin in surgical tuberculosis. Bonime, E., 1916, **1**, 581, ab.
— O.T., comparison with human tubercle bacillus protein MA 100 and Timothy bacillus protein MA 100 in regard to skin reaction in man. Huntoon, F. M., Funk, E. H., and White, H., 1931, **21**, 57, ab.
— old, permeability of the respiratory tract to. Clark, P. F., Middleton, W. S., and Wilson, O. M., 1929, **17**, 57, ab.
— Rosenbach's, treatment of genitourinary tuberculosis with. Hyman, A., 1916, **1**, 580, ab.

Tuberculin sensitization of cattle to by non-tubercle, acid-fast bacilli of bovine origin. Hastings, E. G., Beach, B. A., and Thompson, I., 1930, **19**, 29, ab.
— therapy. Shively, H. L., 1916, **1**, 251, ab.
Tuberculo-medicine, utilization of "reactor" milk in. Fitzpatrick, C. B., 1916, **1**, 127, ab.
tuberculosis, see Mycobacterium and Tubercle bacillus
Tuberculosis. Biggs, H. M., 1916, **1**, 264, ab.
— acquirement of immunity by treatment with Von Ruck's vaccine. Clemenger, F. J., and Martley, F. C., 1916, **1**, 692, ab.
— allergy and resistance in relation to vaccination with B. C. G. Clawson, B. J., 1935, **29**, 32, ab.
— and syphilis in the same lung. Keilty, R. A., 1916, **1**, 694, ab.
— avian, single cell dissociation of, Mycobacterium of. Kahn, M. C., and Schwarzkopf, H., 1933, **25**, 157
— Bonime's modification of Koch's treatment. Newton, R. C., 1916, **1**, 689, ab.
— chemotherapy of, first clinical report. Koga, G., 1916, **1**, 700, ab.
— — — — experimental report. Koga, G., 1916, **1**, 699, ab.
— conjunctival, of lupus patients. Lundsgaard, K. K. K., 1916, **1**, 376, ab.
— cold-blooded animals. Aronson, J. D., and Henderson, H. J., 1934, **27**, 101, ab.
— complement fixation in. Miller, H, R., and Zinsser, H., 1916, **1**, 688 ab.
— — — test in. Miller, H. A., 1916, **1**, 688, ab.
— epidemiology of. Smith, F. C., 1916, **1**, 264, ab.
— experimental mouse. Long, E. R., 1934, **27**, 102, ab.
— genito-urinary, diagnosis of. Churchman, J. W., 1916, **1**, 380, ab.
— genito-urinary, treatment with Rosenbach's tuberculin. Hyman, A., 1916, **1**, 580, ab.
— immunity in. Webb, G. A., 1916, **1**, 574, ab.
— immunological studies in. Resistance to infection of animals sensitized with killed tubercle bacilli. Petroff, S. A., and Stewart, F. W., 1926, **11**, 104, ab.
— in infancy. Dunn, C. H., 1916, **1**, 130, ab.
— infection, age of most frequent occurrence. Knopf, S. A., 1916, **1**, 265, ab.
— of the cervix, early. Cullen, T. S., 1916, **1**, 376, ab.
— — — middle ear. Graham, H. B., 1916, **1**, 695, ab.
— production of an antigen for complement-fixation in. Miller, H. R., and Zinsser, H., 1916, **1**, 687, ab.
— pulmonary, chronic influenza in. Hamblet, M. L., and Barnes, H. L., 1916, **1**, 699, ab.
— — complement fixation in. Meyer, A., 1916, **1**, 690, ab.
— — immune response in. Bonime, E., 1916, **1**, 581, ab.
— — laboratory methods for early diagnosis. Kahn, M. H., 1916, **1**, 581, ab.
— — variation of tubercle bacilli in. Reed, G. B., Rice, C. E., and Orr, J. H., 1933, **25**, 96, ab.
— so-called primary, of the conjunctivita and the conjunctival tuberculosis of lupus patients. Lundsgaard, K. K. K., 1916, **1**, 376, ab.
— surgical, tuberculin in. Bonime, E., 1916, **1**, 581, ab.
— therapy as related to immunology. Baldwin, E. R., 1916, **1**, 364, ab.
— treatment with cyanocuprol. Otani, M., 1916, **1**, 700, ab.

Tuberculosis, views in respect of modes and periods of infection in. Ravenel, M. P., 1916, **1**, 257, ab.
Tuberculous animals, influence on response to toxin. Freund, J., 1935, **30**, 443, ab.
— bacillemia and dementia praecox. Kopeloff, L. M., Kopeloff, N., Hinsie, L. E., and Etchells, J. L., 1935, **30**, 49
— dispensary cases, Wassermann reaction in. Jones, W. R., 1916, **1**, 682, ab.
— organism, tuberculocidal action of arsenic compounds and their distribution in the. Arkin, A., and Cooper, H. J., 1916, **1**, 585, ab.
— patients, acid-fast bacilli in the blood of. Norton, J. F., and Broom, N. H., 1933, **25**, 98, ab.
— sputum, types of pneumococci in. Lyall, H. W., 1916, **1**, 695, ab.
Tubes, rolled, mechanical device which prepares and inoculates. Thompson, R., 1934, **28**, 279
Tularemia infection, experimental, in birds. Green, R. G., and Wade, E. M., 1929, **17**, 55, ab.
— — in rabbits and guinea pigs. I. Downs, C. M., 1931, **21**, 50, ab.
tularense, see Bacterium
tumefaciens, see Phytomonas
Tumors, malignant, ontogeny of an organism isolated from. Stearn, E. W., Sturdivant, B. F., and Stearn, A. E., 1929, **18**, 227
— transplantable, virus problem in. Mueller, J. H., 1927, **13**, 26, ab.
Turtles, passive sensitization of with immune serum from chickens and rabbits. Sherwood, N. P., and Downs, C. M., 1927, **13**, 39, ab.
Tympanitis, infectious, a new disease of young rabbits. Morcos, Z., 1932, **23**, 449
typhi, see Bacterium
Typhoid and paratyphoid bacilli, use of brilliant green for the isolation of from feces. Krumwiede, C., Jr., Pratt, J. S., and McWilliams, H. I., 1916, **1**, 129, ab.
— bacilli, agglutinability of blood and agar strains of. Bull, C. G., and Pritchett, I. W., 1916, **1**, 568, ab.
— — hyperleucocytosis following the injection of into immunized rabbits. McWilliams, H. I., 1916, **1**, 569, ab.
— — influence on antibodies of normal and immune rabbits. Bull, C. G., 1916, **1**, 365, ab.
— — variations in. Morishima, K.-I., 1921, **6**, 275
— bacillus, precipitation of by definite hydrogen-ion concentration. Kemper, C. F., 1916, **1**, 459, ab.
— — study of effect of emetinized blood on. Beekman, M., 1916, **1**, 252, ab.
— carriers, examination of the urine and feces of. Tonney, F. O., Caldwell, F. C., and Griffin, P. J., 1916, **1**, 699, ab.
— cultures, freshly isolated, biologic origin of inagglutinability with. Mellon, R. R., 1926, **11**, 84, ab.
— fever, practical points in the treatment of. Robinson, B., 1916, **1**, 252, ab.
— — treatment of by intravenous injections of polyvalent sensitized typhoid vaccine sediment. Gay, F. P., and Chickering, H. T., 1916, **1**, 128, ab.
— — — — — with bacterins. Waitzfelder, E., 1916, **1**, 253, ab.
— fowl, double sugar medium for routine diagnosis of. Cruickshank, G. A., 1927, **14**, 435
— inoculation against in Maryland. Hachtel, F. W., and Stoner, H. W., 1916, **1**, 683, ab.
— -paratyphoid group, synthetic media for the differentiation of. Thompson, L., 1927, **13**, 47, ab.
— reaction, observations on. Austrian, C. R., and Bloomfield, A. L., 1916, **1**, 569, ab.

Typhoid vaccination, anti-, possible reasons for lack of protection after. Nichols, H. J., 1916, **1**, 366, ab.
— — by mouth, immunological studies. Agglutinins formed in persons treated orally with triple typhoid bacterin. Hoffstadt, R. E., and Thompson, R. L., 1929, **17**, 41, ab.
— — — — Agglutinins and complement fixation reactions formed in persons treated with typhoid bacterin in capsule. Hoffstadt, R. E., and Martin, C. E., 1929, **17**, 42, ab.
— — — — Complement fixations and precipitin reactions in persons treated orally with bile and triple typhoid bacterin. Hoffstadt, R. E., and Thompson, R. L., 1929, **17**, 41, ab.
— vaccine, bacteriophage as substitute for. Larkum, N. W., 1929, **17**, 42, ab.
typhosum, see Bacterium
typhosus, see Bacterium
Typhus exanthematicus, epidemic of in Balkans and camps of Europe. Caldwell, B. W., 1916, **1**, 265, ab.
— fever in Mexico, etiology of. Olitsky, P. K., Denver, B. S., and Husk, C. E., 1916, **1**, 580, ab.
— — studies. Zinsser, H., and Castaneda, M. R., 1931, **21**, 43, ab.; 1932, **23**, 102, ab.
— -like group diseases, immunology and serology. Badger, L. F., 1933, **25**, 77, ab.
— -Rocky Mountain spotted fever group in the United States. Rumreich, A., 1932, **23**, 104, ab.

U

Udder, normal and infected, bacteriology of. Hucker, G. J., 1933, **25**, 58, ab.
— — cow's, micrococci in. Breed, A. F., 1928, **15**, 29, ab.
Udders infected with *Brucella abortus*, leucocyte content of milk from. Prouty, C. C., 1934, **27**, 293
Ulcer, gastric, bacteriological and experimental studies. Celler, H. L., and Thalhimer, W., 1916, **1**, 589, ab.
— — remarks on. West, R., and Stewart, M. E., 1916, **1**, 697, ab.
— — some notes on. Stewart, M. W., and West, R., 1916, **1**, 588, ab.
ulcerans, see Corynebacterium
Ultrafiltration, problem of. Clifton, C. E., 1931, **21**, 7, ab.
— studies on the virus of poliomyelitis. Clifton, C. E., Schultz, E. W., and Gebhardt, L. P., 1931, **22**, 7
Ultra violet light, action upon antigenic property of *P. avicida*. Bushnell, L. D., 1926, **11**, 107, ab.
— — — extreme, action on *B. subtilis* spores. Blank, I. H., and Arnold, W., 1935, **30**, 503
— — — irradiation of carbohydrates by and resultant inhibition of growth of *B. subtilis*. Blank, I. H., and Arnold, W., 1935, **30**, 507
— — — radiation of by bacteria and higher plants. Mellon, R. R., von Rashevsky, N., and von Rashevsky, E., 1929, **17**, 5, ab.
— — rays, sterilization of oils by. Fairhall, L. T., and Bates, P. M., 1920, **5**, 49
Ultraviruses, so-called, and filtrable stages in the life cycle of ordinary bacteria. Mellon, R. R., 1927, **13**, 28, ab.
Undulant fever, cutaneous reactions in. Goldstein, J. D., 1935, **30**, 446, ab.
— — in man, bacteriology of. Carpenter, C. M., 1926, **11**, 108, ab.
— — — New York state. Gilbert, R., and Coleman, M. B., 1928, **15**, 40, ab.
— — — — — — — Gilbert, R., and Coleman, M. B., 1933, **25**, 87, ab.
— — laboratory infections in U. S. Meyer, K. F., 1935, **29**, 43, ab.
Urea, effect of on living cells. Sherwood, N. P., and Dunmire, F., 1928, **15**, 42, ab.

Urea-splitting bacterium in the human intestinal tract. Cooke, J. V., and Keith, H. R., 1927, **13,** 315
Urease content of nitrogen fixing bacteria. Anderson, J. A., 1926, **11,** 92, ab.
Urinary tract, five cases of infection of due to a member of the group of bacilli named after Morgan. Waaler, E., 1931, **22,** 261
Urine, bacteria in, method of demonstrating. Crabtree, E. G., 1916, **1,** 374, ab.
— effect on hemolytic streptococci. Robinson, G. H., and Taylor, F. A., 1931, **21,** 49, ab.
— *Micrococcus niger*, a new pigment-forming anaerobic coccus recovered from, in a case of general arteriosclerosis. Hall, I. C., 1930, **20,** 407
Urology, bacterial invasions of the blood stream in. Hill, J. H., and Seidman, L. R., 1934, **27,** 87, ab.

V

V-factor, relationship of, to air for growth of *H. influenzae*. Pittman, M., 1935, **30,** 149
Vaccination against *Pasteurella avicida* by oral, subcutaneous, and intravenous methods, comparison of effectiveness. Barnes, LaV., 1928, **15,** 43, ab.
— experiments against anthrax. Eichhorn, A., 1916, **1,** 250, ab.
— oral, subcutaneous, and intravenous, with native fecal organisms. Barnes, LaV., 1928, **15,** 43, ab.
Vaccine therapy. Ehret, G. A., 1916, **1,** 253, ab.
— treatment. Hektoen, L., 1916, **1,** 569, ab.
Vaccines, autosensitized. Wohl, M. G., 1916, **1,** 570, ab.
— bacterial, action of on tissue cultures. Smyth, H. F., 1916, **1,** 465, ab.
— made from nonsporogenous gram negative bacteria, value of toluol in sterilizing. Bristol, L. D., 1916, **1,** 689, ab.
— of favus and ringworm. Lavinder, C. H., 1916, **1,** 365, ab.
Vaccinia, adsorption experiments with the virus of. Tang, F. F., 1932, **24,** 133
— complement fixation in. Kolmer, J. A., 1916, **1,** 568, ab.
— cultivation of the organisms of. Greeley, H., 1916, **1,** 702, ab.
— observations on the elementary bodies of. Craigie, J., 1933, **25,** 79, ab.
— purification of suspensions of virus of. Behrens, C. A., and Nielsen, F. A., 1935, **29,** 60, ab.
— virus. Oppenheimer, E. H., 1927, **13,** 24, ab.
— — purified, preservation of. Behrens, C. A., and Ferguson, W. W., 1933, **25,** 79, ab.
Vacuum, influence upon growth of some aerobic spore-bearing bacteria. Bushnell, L. D., 1922, **7,** 283
Vaginitis, primary diphtheric, in children. van Saun, A. I., and Freeman, D. V., 1929, **17,** 51, ab.
Van Leeuwenhoek, Antony. On the three-hundredth anniversary of his birth. Fred, E. B., 1933, **25,** 1
Van Slyke amino nitrogen procedure, error in due to ammonia and its salts. Parsons, L. B., and Sturges, W. S., 1926, **11,** 165
— — method for the determination of amino-acid nitrogen as applied to the study of bacterial cultures. Lamson, R. W., 1924, **9,** 307
Vapors from irradiated essential oils, increase in bactericidal value of. Reiner-Deutsch, W., and Molnar, N., 1935, **30,** 444, ab.
— — — oils, germicidal activity of. Harris, R. S., Bunker, J. W. M., and Milas, N. A., 1932, **23,** 429
Variability of *B. megatherium*. Knaysi, G., 1935, **29,** 389
— — — — principles of morphology in. Rettger, L. F., and Gillespie, H. B., 1935, **30,** 213

Variability of *Cl. septicum*, in growth phases. Hoyt, A., 1935, **30**, 243
— — *Escherichia coli*, chemical-biological study of rough variants in. Rennebaum, E. H., 1935, **30**, 625
— — pigment-producing coccus. Colien, F. E., 1935, **30**, 301
— — *Pneumococcus*, smooth virulent variants from daughter-colony dissociation and. Eaton, M. D., 1935, **30**, 119
— — *Salmonella aertrycke*, serological variant from pigeons and. Edwards, P. R., 1935, **30**, 465
— — *Shigella paradysenteriae* during dissociation and partial reversion. Mackenzie, G. M., Fitzgerald, H., and Irons, V., 1935, **29**, 583
— — staphylococci, small colony and. Swingle, E. L., 1935, **29**, 467
— — *Streptococcus hemolyticus*. Dawson, M. H., and Olmstead, M. 1935, **29**, 11, ab.
— spontaneous, of *Torula pulcherrima*. Punkari, L., and Henrici, A. T., 1935, **29**, 259
Variation, bacterial. Ørskov, J., and Larsen, A., 1925, **10**, 473
— — Rettger, L. F., and Gillespie, H. B., 1932, **23**, 15, ab.
— — a hypothetical view. Reed, G. B., 1933, **25**, 580
— — symposium on. Abstracts of certain papers presented before the Society of American Bacteriologists at Ann Arbor, December 28, 1932. 1933, **25**, 545
— — underlying principles governing cell morphology of *Bacillus megatherium*. Rettger, L. F., and Gillespie, H. B., 1935, **30**, 213
— — with special reference to behavior of some mutable strains of colon bacteria in synthetic media. Lewis, I. M., 1934, **28**, 619
— — — — — — — pleomorphism and filtrability. Rettger, L. F., and Gillespie, H. B., 1933, **26**, 289
— colonial, of *Escherichia coli* on solid media with especial reference to the production of rough colonies. Hunter, C. A., 1931, **21**, 13, ab.
— in a chromogenic asporogenous yeast. Punkari, L., and Henrici, A. T., 1933, **26**, 125
— — *Cl. tetani*. Orr, J. H., and Reed, G. B., 1934, **27**, 48, ab.
— independent, of bacterial properties. Nungester, W. J., 1933, **25**, 49, ab.
— *Pneumococcus*. Variants characterized by rapid lysis and absence of normal growth under the routine method of cultivation. Eaton, M. D., 1934, **27**, 271
— studies on *B. mesentericus* and *B. vulgatus*. Flynn, C. S., and Rettger, L. F., 1934, **28**, 1
Variations, bacterial, induced by changes in the composition of culture media. Dawson, A. I., 1919, **4**, 133
— biological, of bacteria. Induced variations in the cultural characters of *B. coli*. Smirnow, M. R., 1916, **1**, 385
— induced, in the cultural characters of *B. coli*. Smirnow, M. R., 1916, **1**, 385
— observed, in bacterial counts on the same plate. Schacht, F. L., and Robertson, A. H., 1931, **21**, 22, ab.
Varicella, complement fixation in. Kolmer, J. A., 1916, **1**, 568, ab.
— cultivation of the organisms of. Greeley, H., 1916, **1**, 702, ab.
Variola, complement fixation in. Kolmer, J. A., 1916, **1**, 568, ab.
— cultivation of the organisms of. Greeley, H., 1916, **1**, 702, ab.
Vasomotor disturbances of the upper air passages, skin reactions excited by bacterial proteins in. Goodale, J. L., 1916, **1**, 368, ab.
Veal infusion as a medium for purity tests of cultures of Rhizobia. Hofer, A. W., 1933, **25**, 56, ab.

Veal infusion growth factors in. Koser, S. A., and Saunders, F., 1935, **29,** 17, ab.
Vegetable extracts in culture media. Thompson, L., 1929, **17,** 4, ab.
— — — — mediums, value of. Thompson, L., 1929, **17,** 379
Vegetables, frozen, further studies on. Straka, R. P., and James, L. H., 1935, **29,** 313
Velocity of growth, and lag period, salt effects in relation to. Sherman, J. M., Holm, G. E., and Albus, W. R., 1922, **7,** 583
Viable bacteria, proportion of in young cultures. Wilson, G. S., 1922, **7,** 405
Viability, bacterial, additive and antagonistic effect of cations on. Winslow, C.-E. A., and Dolloff, A. F., 1928, **15,** 13, ab.
— — comparative study of effect of cations on. Winslow, C.-E. A., and Haywood, E. T., 1930, **19,** 8, ab.
— — influence of various anions in combination with sodium upon. Fabian, F. W., and Winslow, C.-E. A., 1929, **18,** 265
— — relative importance of additive and antagonistic effects of cations upon. Winslow, C.-E. A., and Dolloff, A. F., 1928, **15,** 67
— — specific potency of certain cations with reference to their effect on. Winslow, C.-E. A., and Haywood, E. T., 1931, **22,** 49
— of bacterial spores, differential staining as criterion of. Matthewman, H. B., 1927, **14,** 425
— — dry bacterial cells. Stark, C. N., and Herrington, B. L., 1931, **21,** 13, ab.
— — *Escherichia coli* suspensions, effect of "low voltage" X-rays on. Dozois, K. P., Tittsler, R. P., Lisse, M. W., and Davey, W. P., 1932, **24,** 123
— — yeasts in sucrose solutions. Tanner, F. W., and Burrows, W., 1931, **21,** 32, ab.
Vibrio cholerae, contributions to the knowledge of. I. Fermentation of carbohydrates and polyatomic alcohols by. Nobechi, K., 1925, **10,** 197
— — vitality in water of New York Bay. Gelarie, A. J., 1916, **1,** 251, ab.
— *percolans* (new species), filterable through Berkefeld "V" candles. Mudd, S., and Warren, S., 1923, **8,** 447
Vibrion septique antitoxin, potency testing of. Bengtson, I. A., 1933, **25,** 84, ab.
Victoria blue 4 R., toxicity for *B. paratyphosus* A and B, and *B. enteritidis*. Teague, O., 1918, **3,** 1
Vincent's angina, fusiform bacilli of. Gifford, S. R., 1920, **5,** 365
— bacillus in the cervix. McConnell, G., 1916, **1,** 696, ab.
Vinegar bacteria, non-pellicle-forming. Vandecaveye, S. C., 1927, **14,** 1
Violacein, production, extraction and purification of. Tobie, W. C., 1935, **29,** 223
violaceus, see Bacterium
virginianum, see Spirillum
viridans, see Streptococcus
Virulence of *H. pertussis*. Toomey, J. A., 1935, **29,** 34, ab.
Virus diseases of plants, some characteristics of. Kunkel, L. O., 1927, **13,** 23, ab.
— equine encephalomyelitic, immunological study in laboratory animals of thirteen strains of. Howitt, B. F., 1935, **29,** 61, ab.
— herpetic, mouse as a test object for. Simon, C. E., 1927, **13,** 26, ab.
— mosaic, spread of in tomato plants. McCubbin, W. A., and Smith, F. F., 1930, **19,** 23, ab.
— of common cold, action of, on ferrets. Noble, W. C., Jr., and Brainard, D. H., 1935, **29,** 407

Virus diseases epidemic poliomyelitis, concentration of. Clark, P. F., and Schindler, J. A., 1930, **19,** 20, ab.
— — equine encephalomyelitis, behavior of, on the chorioallantoic membrane of the developing chick. Higbie, E., and Howitt, B., 1935, **29,** 399
— problem in transplantable tumors. Mueller, J. H., 1927, **13,** 26, ab.
— vaccine, killed and living, comparison of antigenic qualities in the normal rabbit. Craigie, J., 1934, **27,** 77, ab.
— vaccinia, purification of. Behrens, C. A., and Nielsen, F. A., 1935, **29,** 60, ab.
Viruses, filterable. Rivers, T. M., 1927, **13,** 16, ab.
— — cellular inclusion bodies in diseases due to. Cowdry, E. V., 1927, **13,** 20, ab.
— — critical review. Rivers, T. M., 1927, **14,** 217
— — nature of. Green, R. G., 1935, **30,** 331, ab.
— — of leukosis and sarcoma of chickens. Furth, J., 1934, **27,** 79, ab.
— of laryngotracheitis and coryza of chickens, ultrafiltration experiments with. Gibbs, C. S., 1935, **30,** 411
— plant, aphid transmission of. Hoggan, I. A., 1930, **19,** 21, ab.
— — irradiation with monochromatic light. The virus of typical tobacco mosaic and *Serratia marcescens* as influenced by ultra-violet and visible light. Duggar, B. M., and Hollaender, A., 1934, **27,** 219
— — — — — — — Resistance to ultraviolet radiation of a plant virus as contrasted with vegetative and spore stages of certain bacteria. Duggar, B. M., and Hollaender, A., 1934, **27,** 241
— so-called encephalitis, virulent streptococci and spore-forming rods cultivated from. Evans, A. C., 1927, **13,** 27, ab.
— — herpetic, virulent streptococci and spore-forming rods cultivated from. Evans, A. C., 1927, **13,** 27, ab.
— ultramicroscopic, antigenic properties of. Schultz, E. W., 1930, **19,** 20, ab.
Viscosimeter, Ostwald, for determination of liquefaction by bacteria. Shaw, F. W., 1924, **9,** 315
Viscosity of bacterial suspensions, influence of hydrogen ion concentration on. Falk, I. S., and Harrison, R. W., 1926, **12,** 97
Vitamin A, relation of microörganisms to. Occurrence of carotene in bacteria. Ingraham, M. A., and Baumann, C. A., 1934, **28,** 31
— B (?), influence on azotobacter. Itano, A., 1923, **8,** 483
— — synthesis of by microörganisms. Sunderlin, G., and Werkman, C. H., 1928, **16,** 17
— D, synthesis by *Azotobacter chroococcum*. Greaves, J. E., 1935, **30,** 149
— effects in the physiology of microörganisms. Werkman, C. H., 1927, **14,** 335
Vitamines, relation to the growth of a streptococcus. Ayers, S. H., and Mudge, C. S., 1922, **7,** 449
Voges and Proskauer reaction, modification in technique. Bunker, G. C., Tucker, E. J., and Green, H. W., 1918, **3,** 493
— — — and methyl red reactions, correlation of in the coli-aerogenes group of bacteria. Levine, M., 1916, **1,** 566, ab.
— — — reaction, on the correlation of the methyl red and. Levine, M., 1916, **1,** 87, ab.
— — — — — — — significance of the. Levine, M., 1916, **1,** 153
— — — — — rapid method of obtaining. Bedford, R. H., 1929, **18,** 93

Voges and Proskauer test, advantages of O'Meara's modification of. Tittsler, R. P., 1933, **25,** 40, ab.
— — — — improved technic for. Werkman, C. H., 1930, **20,** 121
Von Hibler's "bacillus VI," identification of, as *Bacillus carnis* (Klein). Hall, I. C., and Duffett, N. D., 1935, **29,** 269
Von Ruck's vaccine against tuberculosis, acquirement of immunity by. Clemenger, F. J., and Martley, F. C., 1916, **1,** 692, ab.
vulgatus, see Bacillus
Vulvovaginitis, Bulgarian bacillus in the treatment of. Cohen, M. B., 1916, **1,** 695, ab.

W

Wall, cell, a factor in the Gram reaction. Burke, V., and Barnes, M., 1928, **15,** 12, ab.
Wassermann examinations, routine, of hospital patients. Walker, I. C., and Haller, D. A., 1916, **1,** 262, ab.
— reaction, antagonistic action of negative sera upon. Sellards, A. W., and Minot, G. R., 1916, **1,** 572, ab.
— — in leprosy. Soule, M. H., 1935, **29,** 48, ab.
— — — two hundred and fifty-one tuberculous dispensary cases. Jones, W. R., 1916, **1,** 682, ab.
— — the "delayed negative." Olson, O. M., 1916, **1,** 572, ab.
— reactions, positive, in cases of untreated syphilis, variations in strength of. Haller, D. A., 1916, **1,** 366, ab.
Water, an apparatus for obtaining samples of at different depths for bacteriological analysis. Wilson, F. C., 1920, **5,** 103
— analysis, *coli-aerogenes* differentiation in. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **21,** 407
— — — — — The biochemical differential tests and their interpretation. Ruchhoft, C. C., Kallas, J. G., Chinn, B., and Coulter, E. W., 1931, **22,** 125
— — some results on the use of crystal violet in bacteriological culture media for. Stark, C. N., and England, C. W., 1933, **25,** 439
— — use of lactose peptone bile media, with the addition of various triphenylmethane dyes, for the detection of members of the colon group in. Poe, C. F., Field, J. T., Tobey, S., and Witt, N. F., 1928, **15,** 9, ab.
— and barnyard manure, effect on bacterial activities of the soil. Greaves, J. E., and Carter, E. G., 1916, **1,** 676, ab.
— — oil systems, behavior of acid-fast bacteria in. Reed, G. B., and Rice, C. E., 1931, **22,** 239
— *B. coli* in, gentian violet in elimination of spurious presumptive tests. Hall, I. C., and Ellefson, L. J., 1918, **3,** 329
— bacteria, comparison of the number of growing on agar at 37°C. and on gelatin at 20°C. Tanner, F. W., 1916, **1,** 101, ab.
— bile compared with lactose bouillon for determining the presence of *B. coli* in. Obst, M. M., 1916, **1,** 73
— carbonated, viability of the colon-typhoid group in. Koser, S. A., and Skinner, W. W., 1922, **7,** 111
— chlorination of, ammonia in. Race, J., 1916, **1,** 458, ab.
— contaminated, as source of surface flavor in pasteurized creamery butter. Shutt, D. B., 1929, **17,** 39, ab.
— detection of colon organisms in. Stark, C. N., and Curtis, L. R., 1935, **29,** 27, ab.
— — — — — — — by formate ricinoleate broth. Stark, C. N., and England, C. W., 1935, **29,** 26, ab.
— dilution, for bacteriological examinations, selection of. Butterfield, C. T., 1932, **23,** 355

Water drinking, comparison of modified Eijkman test with standard methods for detection of fecal pollution in. Williams, W. L., Weaver, R. H., and Scherago, M., 1933, **25,** 39, ab.
— Eijkman fermentation test as an aid in the detection of fecal organisms in. Leiter, L. W., 1929, **17,** 11, ab.
— electrical treatment of. Starkey, T. A., 1916, **1,** 363, ab.
— examination, routine, an aerobic spore-forming bacillus giving gas in lactose broth isolated in. Meyer, E. M., 1918, **3,** 9
— — bacterial counts in. Race, J., 1916, **1,** 564, ab.
— — routine, confirmatory tests for *B. coli* in. Frost, W. H., 1916, **1,** 565, ab.
— — the use of a three per cent lactose litmus agar plate for the demonstration of *B. coli* in. Meyer, E. M., 1917, **2,** 237
— factors influencing the survival of bacteria in. Ballantyne, E. N., 1930, **19,** 303
— fecal pollution of, Eijkman test in detection of. Brown, J. W., and Skinner, C. E., 1930, **20,** 139
— fresh, and the sea, interchange of bacteria between. Burke, V., 1934, **27,** 201
— freshly distilled, growth retardation by. Hegarty, C. P., and Rahn, O., 1934, **23,** 21
— investigation of, interpretation of *B. coli* test results on a numerical and comparative basis as applied to. Stein, M. F., 1919, **4,** 243
— irregularities in the test for *B. coli* in. Thompson, R. E., 1927, **13,** 209
— observations on the types of organisms isolated from after treatment with calcium hypochlorite. Smeeton, M. A., 1917, **2,** 355
— of condensation, so-called, the exudate from nutrient agar slants. Healy, D. J., 1926, **12,** 179
— pollution, use of crystal violet in presumptive tests for. Stark, C. N., and England, C. W., 1923, **23,** 36, ab.
— quantitative estimation of *E. typhi* in. Ruchhoft, C. C., 1935, **29,** 25, ab.
— reduction of number of organisms in as result of freezing in domestic refrigerators. Prescott, S. C., and Bates, P. K., 1931, **21,** 26, ab.
— sea, concentration of as affecting bacterial population. Lipman, C. B., 1926, **12,** 311
— spore-bearing organisms in. Laubach, C. A., 1916, **1,** 505
— sterilizing measured amounts in the autoclave. Noyes, H. A., 1918, **3,** 537
— supplies, copper sulphate treatment of. Huff, N. L., and House, G. O., 1916, **1,** 458, ab.
— — disinfection of, Maryland experiences. Morse, R. B., 1916, **1,** 457, ab.
— — of interstate common carriers on the Great Lakes. Letton, H. P., 1916, **1,** 458, ab.
— — privately owned rural, *Bacterium coli* in. France, R. L., 1933, **25,** 623
— system for the bacteriological examination of. Salle, A. J., 1930, **20,** 381
— uniced specimens, bacterial changes in. Albert, H., Hinman, J. J., Jr., and Jordan, G., 1916, **1,** 119, ab.
Waters, commercial bottled, bacteria in. Obst, M. M., 1916, **1,** 103, ab.; 564
— lake, seasonal variations in the ammonia and nitrate content of and their relation to certain types of bacteria. Domogalla, B. P., 1926, **11,** 93, ab.
— ocean, bacteria in, and their rôle in the cycle of elements in the sea. Waksman, S. A., and Reuszer, H. W., 1932, **23,** 42, ab.

Waters polluted, bacterial death rates in. Butterfield, C. T., 1928, **16,** 257
— potable, the effect of air pressure on during storage. Frost, W. D., and Bachmann, F. M., 1916, **1,** 106, ab.
— surface, the type of colon bacillus occurring in. Rogers, L. A., 1916, **1,** 82, ab.
— well, interpretation of direct differential counts of colon-aerogenes organisms in. Tonney, F. O., and Noble, R. E., 1932, **23,** 473
Waterworks notes, Hartford (Conn.). Saville, C. M., 1916, **1,** 251, ab.
Weil's disease, etiology, mode of infection, and specific therapy. Inda, R., Ido, Y., Hoki, R., Kaneko, R., and Ito, H., 1916, **1,** 379, ab.
Weiss' flagella method for the staining of spirochetes, application of. Weiss, E., 1929, **17,** 61, ab.
Welch, William Henry. 1850–1934. Bayne-Jones, S., 1934, **28,** 433
welchii, see Clostridium
Wells and sub-soil, polluted, non-lactose fermenting bacteria from. Kligler, I. J., 1919, **4,** 35
Wesbrook, Frank Fairchild. Hill, H. W., 1919, **4,** 71
Wheat flour, microbial content of. Holtman, D. Frank, 1935, **30,** 359
— -grass, western (*Agropyron smithii*), a bacterial disease of. O'Gara, P. T., 1916, **1,** 705, ab.
Whey, continuous lactic fermentation of. Rogers, L. A., and Whittier, E. O., 1931, **21,** 37, ab.
Whooping cough, an epidemic treated with pertussis stock vaccine. Nicoll, M., Jr., and Luttinger, P., 1916, **1,** 685, ab.
Wilt, bacterial, of cucurbits, transmission and control of. Rand, F. V., and Enlows, E. M. A., 1916, **1,** 577, ab.
Witte's peptone, a case of sensitization to. Collins, K. R., 1916, **1,** 685, ab.
Wood pulp manufacture, reduction of sulphur containing compounds in. Beckwith, T. D., and Moser, J. R., 1932, **24,** 43
Wort, oxidation-reduction characteristics and yeast growth initiation in a medium containing small amounts of. Colingsworth, D. R., and Reid, J. J., 1935, **30,** 653, ab.
Wounds, gun shot, infected, bacterial flora of. LaGarde, L. A., 1916, **1,** 131, ab.
Wright-Buchner anaerobic tube, a modification of. Mellon, R. R., 1919, **4,** 295

X

X-rays "low voltage," effect on the electrophoretic migration velocity, viability, and pH of *Escherichia coli* suspensions. Dozois, K. P., Tittsler, R. P., Lisse, M. W., and Davey, W. P., 1932, **24,** 123
— substances inhibitory to *B. subtilis*, produced in extract agar by. Blank, I. H., and Kersten, H., 1935, **30,** 21
Xylanase production by an actinomyces, evidence of. Patrick, R., Werkman, C. H., and Hixon, R. M., 1930, **19,** 16, ab.
Xylose, chemical action of *Aerobacter faeni* on. Breden, C. R., Fulmer, E. I., Werkman, C. H., and Hixon, R. M., 1930, **19,** 41, ab.
— fermentation, biological and chemical studies of the Lactobacillus genus with special reference to. Weinstein, L., and Rettger, L. F., 1931, **21,** 4, ab.
— — by certain aerobic bacteria. Fred, E. B., Peterson, W. H., and Anderson, J. A., 1923, **8,** 277
— — — *L. pentoaceticus*. Weinstein, L., and Rettger, L. F., 1932, **24,** 1

Y

"Y" bacillus infection in an epidemic of dysentery. VanPoole, G. M., 1916, **1,** 588, ab.

Yeast agar medium, viability of meningococci on. Eberson, F., 1920, **5**, 431
— as a substitute for meat extract in culture media. Johanson, E., and Broadhurst, J., 1926, **11**, 87, ab.
— autolysate as a culture medium for bacteria. Kligler, I. J., 1919, **4**, 183
— baker's, effects of certain chemical compounds upon the course of gas production by. Branham, S. E., 1929, **18**, 247
— — fate of in intestine of man and white rat. Rettger, L. F., Reddish, G. F., and McAlpine, J. G., 1924, **9**, 327
— blood-red, from milk. Brush, A. C., 1927, **13**, 58, ab.
— cells, lethal effect of alternating current on. Tracy, R. L., Jr., 1932, **24**, 423
— — micrometabolism of. Pribram, E. A., and Kotler, L., 1934, **27**, 24, ab.
— chromogenic asporogenous, variation in. Punkari, L., and Henrici, A. T., 1933, **26**, 125
— commercial dried, culture media made from as a substitute for meat infusion peptone media. Neill, J. M., Sugg, J. Y., Richardson, L. V., and Fleming, W. L., 1929, **17**, 329
— effect of deuterium on the growth of. Richards, O. W., 1934, **28**, 289
— — — oxidation-reduction character of the medium on growth of. Reid, J. J., and Baldwin, I. L., 1934, **27**, 29, ab.
— — on ammonia and indol production by bacteria in culture and in feces suspension. Pierce, H. B., 1931, **21**, 225
— glutathione and metabolism of. Machlis, S., and Blanchard, K. C., 1935, **30**, 442, ab.
— growth-promoting substances in white sugars. Hall, H. H., and James, L. H., 1933, **25**, 67, ab.
— — stimulants, production by the molds. *Aspergillus niger*, *Trichoderma lignorum*, and *Aspergillus clavatus*. Schopmeyer, H., and Fulmer, E. I., 1931, **22**, 23
— industrial production and use of. Frey, C. N., 1935, **30**, 443, ab.
— influence of sodium chloride on the growth and metabolism of. Speakman, H. B., Gee, A. H., Luck, J. M., 1928, **15**, 319
— lactose fermenting, producing foamy cream. Hunter, O. W., 1918, **3**, 293
— manufacture and use. Frey, C. N., 1933, **25**, 67, ab.
— phases in growth in size measured from motion pictures. Bayne-Jones, S., and Adolph, E. F., 1932, **23**, 14, ab.
— pure dry, extracts for culture media. Ayers, S. H., and Rupp, P., 1920, **5**, 89
Yeasts and molds in butter, study of methods for determining numbers of. Parfitt, E. H., 1935, **29**, 69, ab.
— certain, effect of sodium benzoate upon. Tanner, F. W., and Strauch, L. B., 1926, **11**, 99, ab.
— dissociation in. Fabian, F. W., and McCullough, N. B., 1934, **27**, 43, ab.
— — — Fabian, F. W., and McCullough, N. B., 1934, **27**, 583
— effect of freezing on. Tanner, F. W., and Williamson, B., 1928, **15**, 23, ab.
— growth in pure nutrient solutions. Devereux, E. D., and Tanner, F. W., 1927, **14**, 317
— — on synthetic media. Fulmer, E. I., and Grimes, M., 1923, **8**, 585
— in carbonated beverages. McKelvey, C. E., 1926, **11**, 98, ab.
— influence of iodine on growth and metabolism of. Greaves, J. E., Zobell, C. E., and Greaves, J. D., 1928, **16**, 409

Yeasts micrometabolism, influence of KCl on glucose esterification in. Pribram, E. A., and Kotler, L., 1935, **29,** 21, ab.
— multiplication in synthetic nutrient solutions. Tanner, F. W., Devereux, E. D., and Higgins, F. M., 1926, **11,** 45
— probably pathogenic, recovered from routine throat cultures. Grover, A. L., 1916, **1,** 121, ab.
— production of pink sauerkraut by. Fred, E. B., and Peterson, W. H., 1922, **7,** 257
— souring of dates by. Fellers, C. R., and Clague, J. A., 1932, **23,** 63, ab.
— viability in sucrose solutions. Tanner, F. W., and Burrows, W., 1931, **21,** 32, ab.
Yellow fever infection in animals, circulating virus and antibodies in. Hughes, T. P., and Theiler, M., 1934, **27,** 76, ab.
— — specificity of the protection test in. Sawyer, W. A., and Whitman, L., 1934, **27,** 75, ab.
— — virus, partial purification of through adsorption and elution. Hughes, T. P., 1934, **28,** 401
Youth, physiological, in bacteria. Sherman, J. M., and Albus, W. R., 1923, **8,** 127
— — of a bacterial culture as evidenced by cell metabolism. Walker, H. H., Winslow, C.-E. A., Huntington, E., and Mooney, M. G., 1934, **27,** 303
— — — bacteria as evidenced by cell metabolism. Walker, H. H., Winslow, C.-E. A., Huntington, E., and Mooney, M. G., 1934, **27,** 22, ab.

Z

Ziehl-Neelsen and Schulte-Tigges methods of staining tubercle bacilli, comparison. Shoub, H. L., 1923, **8,** 121
Zygotes. Broadhurst, J., 1934, **27,** 48, ab.
Zygo-spore formation in the colon-typhoid group. Mellon, R. R., 1925, **10,** 481
zymogenes, see Micrococcus

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